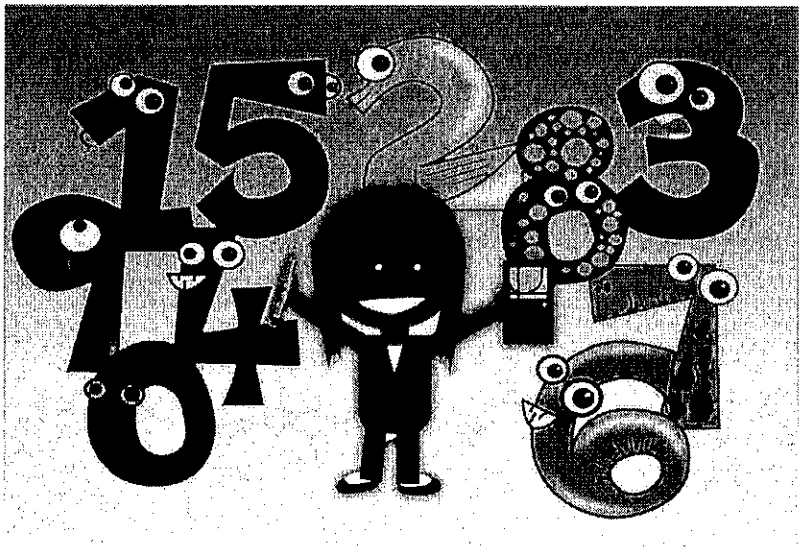
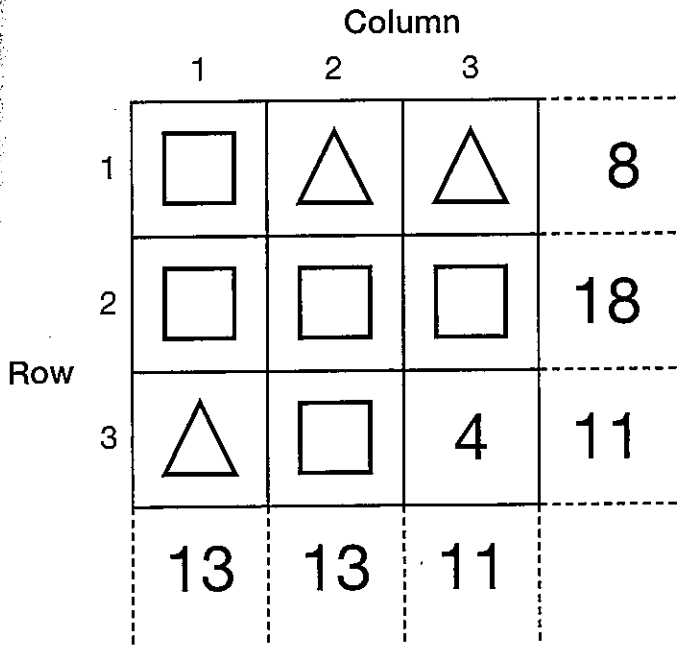
# Math Activities Grade 3



Name _____

# Grids 1

Same shapes are same numbers.
Different shapes are different numbers.
Numbers at the ends of rows and bottoms of columns are sums.




1. What number is □? _____

2. What number is △? _____

3. Explain how you found the numbers. _____

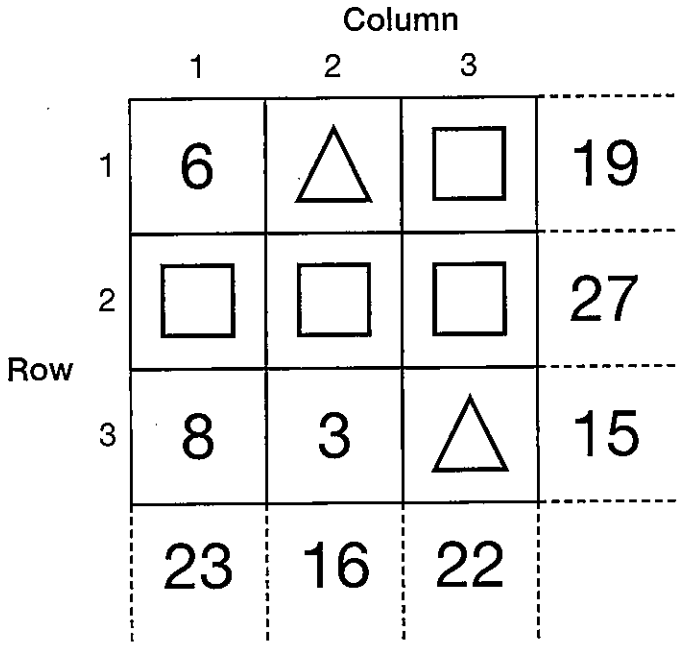
_____

_____

_____

# Grids 2

Same shapes are same numbers.
Different shapes are different numbers.
Numbers at the ends of rows and bottoms of columns are sums.




1. What number is □? _____

2. What number is △? _____

3. Explain how you found the numbers. _____

_____

_____

_____

me _____

# rids 3

me shapes are same numbers.
ferent shapes are different numbers.
mbers at the ends of rows and bottoms of columns are sums.

Column

| Row | 1 | 2 | 3 | |
|---|---|---|---|---|
| 1 | △ | 3 | □ | 16 |
| 2 | △ | □ | 4 | 17 |
| 3 | △ | △ | 5 | 17 |
| | 18 | 16 | 16 | |

What number is □? _____

What number is △? _____

Explain how you found the numbers. _____

_____

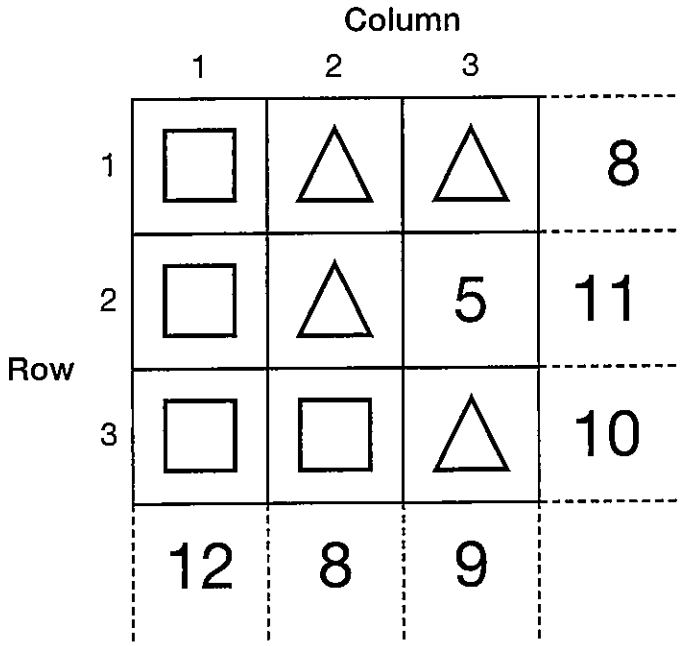
_____

_____

Name _____

# Grids 4

Same shapes are same numbers.
Different shapes are different numbers.
Numbers at the ends of rows and bottoms of columns are sums.




1. What number is □? _____

2. What number is △? _____

3. Explain how you found the numbers. _____

_____

_____

_____

# rids 5

me shapes are same numbers.
ifferent shapes are different numbers.
umbers at the ends of rows and bottoms of columns are sums.

Column

| Row | 1 | 2 | 3 | |
|---|---|---|---|---|
| 1 | 9 | 1 | □ | 12 |
| 2 | □ | △ | △ | 18 |
| 3 | □ | □ | 7 | 11 |
| | 13 | 11 | 17 | |

1. What number is □? _____

2. What number is △? _____

3. Explain how you found the numbers. _____

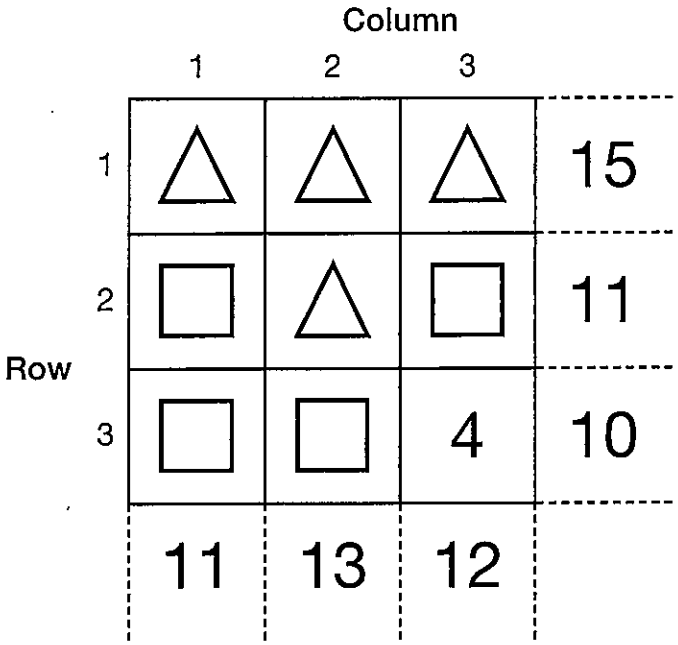
_____

_____

_____

# Grids 6

Same shapes are same numbers.
Different shapes are different numbers.
Numbers at the ends of rows and bottoms of columns are sums.




1. What number is □? _____

2. What number is △? _____

3. Explain how you found the numbers. _____

_____

_____

_____

# Solutions

## Grids 1

1. 6
2. 1
3. Possible answer: Since row 2 shows that three squares are 18, then one square is 18 ÷ 3, or 6. Row 3 shows that triangle plus square plus 4 is 11. Replace the square with 6. Then triangle is 11 − 4 − 6, or 1.

## Grids 2

1. 9
2. 4
3. Possible answers: Since column 1 shows that 6 plus square plus 8 is 23, then square is 23 − 6 − 8, or 9; or row 2 shows that 3 squares are 27, so square is 27 ÷ 3, or 9. Row 3 shows that 8 plus 3 plus triangle is 15, so triangle is 15 − 8 − 3, or 4.

## Grids 3

1. 7
2. 6
3. Possible answer: Column 3 shows that square plus 4 plus 5 is 16. That means that square is 16 − 4 − 5, or 7. Column 1 shows that 3 triangles are 18. Thus, triangle is 18 ÷ 3, or 6.

## Grids 4

1. 4
2. 2
3. Possible answer: Column 1 shows that three squares are 12, so one square is 12 ÷ 3, or 4. Column 3 shows that triangle plus 5 plus triangle is 9. That means that two triangles equal 9 − 5, or 4, and one triangle is 4 ÷ 2, or 2.

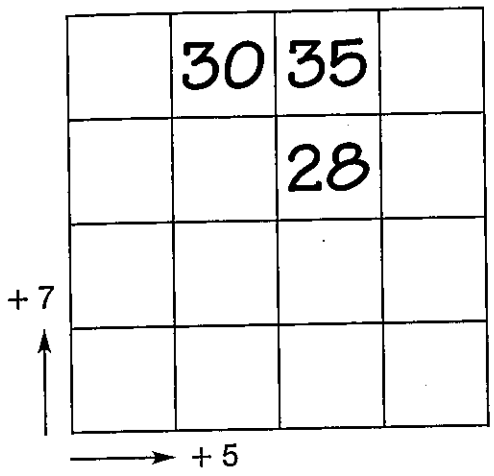
## Grids 5

1. 2
2. 8
3. Possible answer: Row 1 shows that 9 plus 1 plus square is 12, so square is 12 − 9 − 1, or 2. Column 3 shows that square plus triangle plus 7 is 17. Replace square with 2. Then 2 plus triangle plus 7 is 17, so triangle is 17 − 2 − 7, or 8.

## Grids 6

1. 3
2. 5
3. Possible answer: Row 3 shows that square plus square plus 4 is 10. Thus, two squares are 10 − 4, or 6, and one square is 6 ÷ 2, or 3. Row 1 shows that three triangles are 15, so one triangle is 15 ÷ 3, or 5.

# ompleting Squares 1




1. Write a number in each square.

   - Add 5 going across.
   - Add 7 going up.

2. How did you figure out the number in the shaded square?

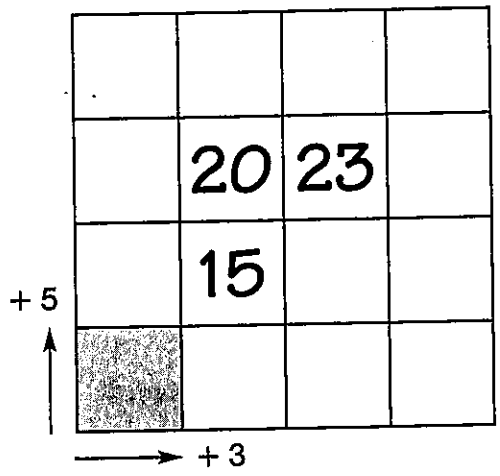
_____

_____

_____

Name _____

# Completing Squares 2




1. Write a number in each square.

   - Add 3 going across.
   - Add 5 going up.

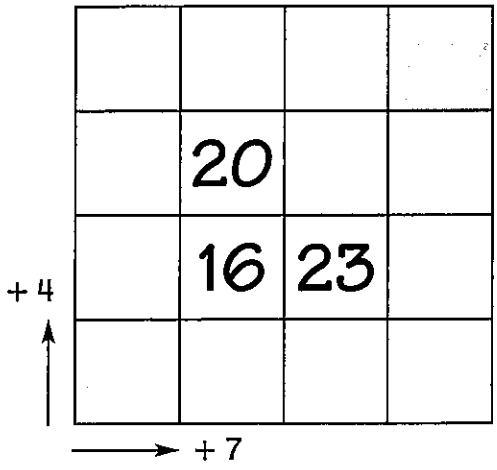
2. How did you figure out the number in the shaded square?

_____

_____

_____

# Completing Squares 3



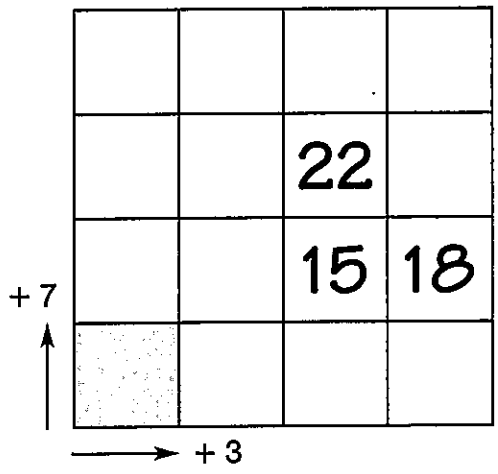

1. Write a number in each square.

   - Add 7 going across.
   - Add 4 going up.

2. How did you figure out the number in the shaded square?

ame

# :ompleting Squares 4




. Write a number in each square.

- Add 3 going across.
- Add 7 going up.

. How did you figure out the number in the shaded square?





Nam

Co

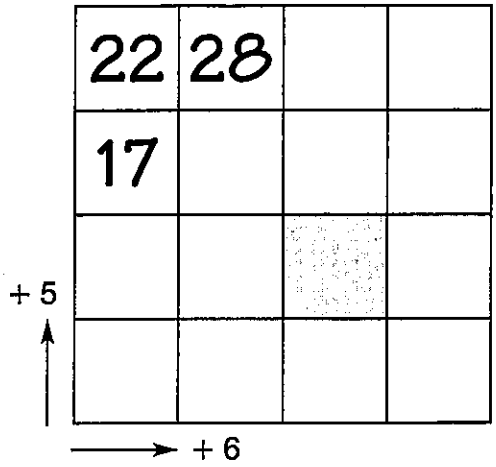
1. W

2. H
sl



Reasoni

# Completing Squares 5



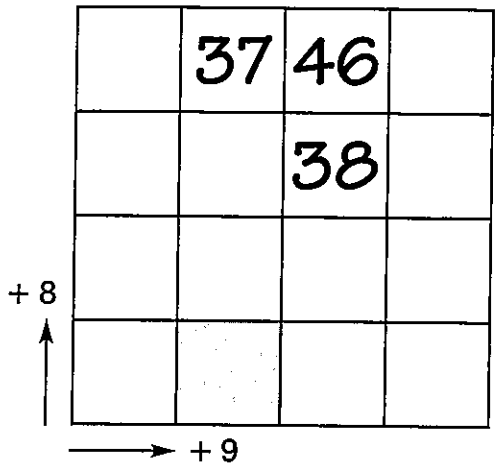

1. Write a number in each square.

   - Add 6 going across.
   - Add 5 going up.

2. How did you figure out the number in the shaded square?

Name

# Completing Squares 6




. Write a number in each square.

- Add 9 going across.
- Add 8 going up.

How did you figure out the number in the shaded square?

# Solutions

## Completing Squares 1

1.

| | | | |
|---|---|---|---|
| 25 | 30 | 35 | 40 |
| 18 | 23 | 28 | 33 |
| 11 | 16 | 21 | 26 |
| 4 | 9 | 14 | 19 |

+7 ↑ (4 → 9 → 14 → 19) → +5

2. Possible answer: The number below 28 is 28 − 7, or 21. The number below 21 is 21 − 7, or 14. The number to the right of 14 is 14 + 5, or 19.

## Completing Squares 2

1.

| | | | |
|---|---|---|---|
| 22 | 25 | 28 | 31 |
| 17 | 20 | 23 | 26 |
| 12 | 15 | 18 | 21 |
| 7 | 10 | 13 | 16 |

+5 ↑ (7 → 10 → 13 → 16) → +3

2. Possible answer: The number below 15 is 15 − 5, or 10. The number to the left of 10 is 10 − 3, or 7.

## Completing Squares 3

1.

| | | | |
|---|---|---|---|
| 17 | 24 | 31 | 38 |
| 13 | 20 | 27 | 34 |
| 9 | 16 | 23 | 30 |
| 5 | 12 | 19 | 26 |

+4 ↑ (5 → 12 → 19 → 26) → +7

2. Possible answer: The number to the right of 20 is 20 + 7, or 27. The number to the right of 27 is 27 + 7, or 34. The number above 34 is 34 + 4, or 38.

## Completing Squares 4

1.

| | | | |
|---|---|---|---|
| 23 | 26 | 29 | 32 |
| 16 | 19 | 22 | 25 |
| 9 | 12 | 15 | 18 |
| 2 | 5 | 8 | 11 |

+7 ↑ (2 → 5 → 8 → 11) → +3

2. Possible answer: The number below 15 is 15 − 7, or 8. The number to the left of 8 is 8 − 3, or 5. The number to the left of 5 is 5 − 3, or 2.

## Completing Squares 5

1.

| | | | |
|---|---|---|---|
| 22 | 28 | 34 | 40 |
| 17 | 23 | 29 | 35 |
| 12 | 18 | 24 | 30 |
| 7 | 13 | 19 | 25 |

+5 ↑ (7 → 13 → 19 → 25) → +6

2. Possible answer: The number below 17 is 17 − 5, or 12. The number to the right of 12 is 12 + 6, or 18. The number to the right of 18 is 18 + 6, or 24.

## Completing Squares 6

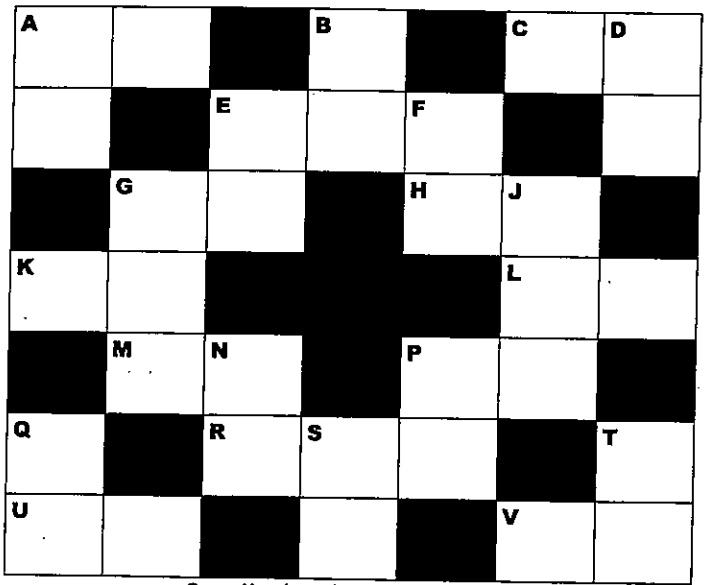
1.

| | | | |
|---|---|---|---|
| 28 | 37 | 46 | 55 |
| 20 | 29 | 38 | 47 |
| 12 | 21 | 30 | 39 |
| 4 | 13 | 22 | 31 |

+8 ↑ (4 → 13 → 22 → 31) → +9

2. Possible answer: The number below 38 is 38 − 8, or 30. The number below 30 is 30 − 8, or 22. The number to the left of 22 is 22 − 9, or 13.

# CROSS-NUMBER PUZZLE 1






## ACROSS:

**A.** 32 - 5

**C.** The number of cents in 1 dime and 3 pennies

**E.** Choose the greatest number:
425, 245, 452, 254

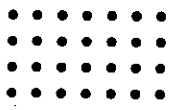
**G.** 80 + 6

**H.** An odd number

**K.** 8 - 2 = ◯ ; 8 - 3 = ▭
Solve: ◯ + ▭

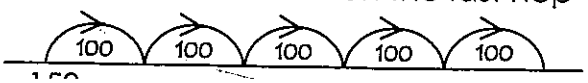
**L.** The number of minutes in 1 hour

**M.** The number of dots in the array

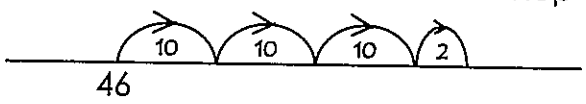


**P.** A number greater than 90

**R.** The number reached on the last hop



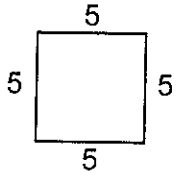

**U.** The number reached on the last hop



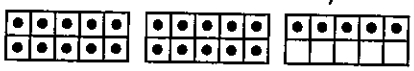

**V.** 46 + 32

## DOWN:

**A.** The perimeter of the square




**B.** The number shown by the ten-frames



**D.** 25 + 5

**E.** An even number

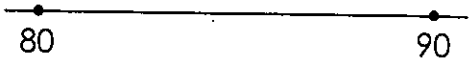
**F.** The next number in the pattern:
17, 19, 21, 23, ▭

**G.** A number between 800 and 900

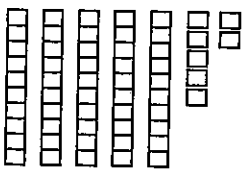
**J.** The number that is 2 more than 962

**N.** A number between 80 and 90

**P.** The decade that 87 is closer to

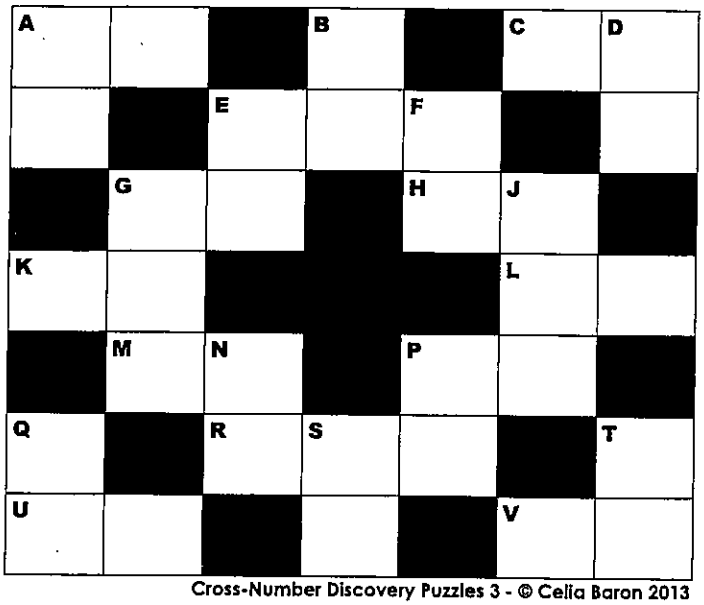



**Q.** The number shown by the blocks



**S.** The number that means 5 tens and 7 ones

# CROSS-NUMBER PUZZLE 2





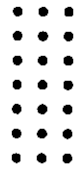

## ACROSS:

**A.** 46 - 6

**C.** 9 - 2 = ◯ ; 9 - 3 = ▭
Solve: ◯ + ▭

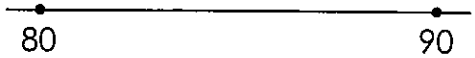
**E.** Choose the least number:
386, 638, 368, 683

**G.** The number of dots in the array



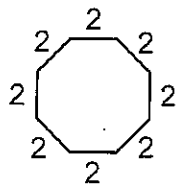
**H.** 73 - 6

**K.** The decade that 83 is closer to




**L.** 4 + 6 + 3 + 7 + 9

**M.** The perimeter of the octagon




**P.** An even number

**R.** The number that is 2 more than 572

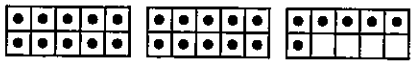
**U.** The number of cents in 4 dimes and 1 nickel

**V.** 89 - 10 - 10 - 10

## DOWN:

**A.** The next number in the pattern:
40, 42, 44, 46, ▭

**B.** The number shown by the ten-frames



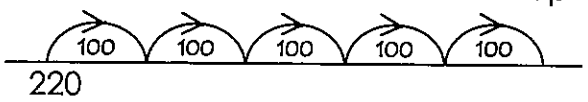
**D.** 26 + 4

**E.** The number of days in the month of January

**F.** A number between 80 and 90

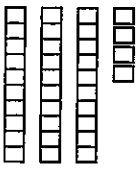
**G.** A number less than 300

**J.** The number reached on the last hop



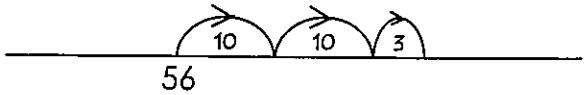

**N.** An odd number

**P.** The number shown by the blocks



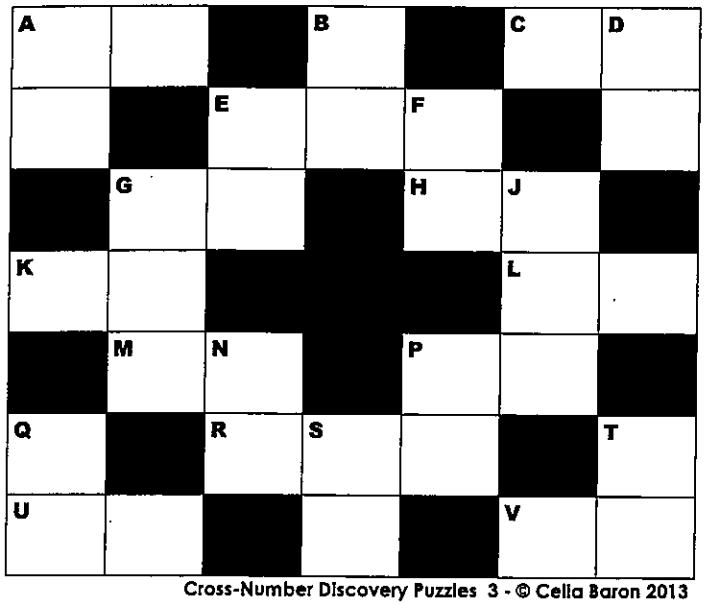
**Q.** The number that means 3 tens and 4 ones

**S.** The number reached on the last hop




**T.** 56 + 23

# CROSS-NUMBER PUZZLE 3






## ACROSS:

**A.** 45 - 6

**C.** 8 - 0 = ◯ ; 6 - 0 = ☐
Solve: ◯ + ☐

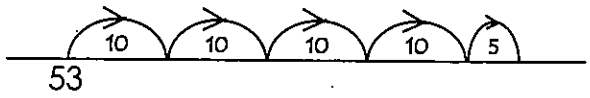
**E.** A number between 300 and 400

**G.** 3 + 7 + 2 + 8 + 6

**H.** A number greater than 50

**K.** 53 + 45

**L.** The number reached on the last hop




**M.** A number with both digits the same

**P.** An even number

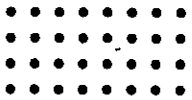
**R.** The number that is 2 less than 538

**U.** The number of minutes in 1 hour and 8 minutes

**V.** 85 - 10 - 10 - 10 - 10

## DOWN:

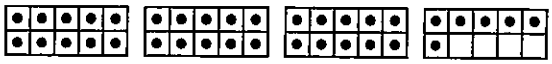
**A.** The number of dots In the array



**B.** The next number in the pattern:
40, 50, 60, 70, ☐

**D.** 36 + 4

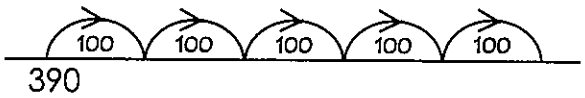
**E.** The number shown by the ten-frames



**F.** The number of cents in 7 dimes and 1 nickel

**G.** Choose the least number:
928, 298, 829, 289

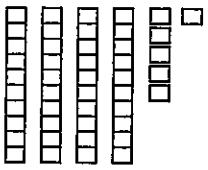
**J.** The number reached on the last hop



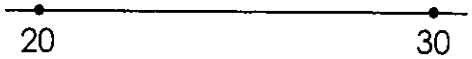

**N.** An odd number

**P.** The number that means 4 tens and 6 ones

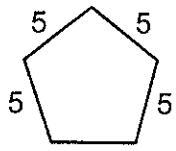
**Q.** The number shown by the blocks



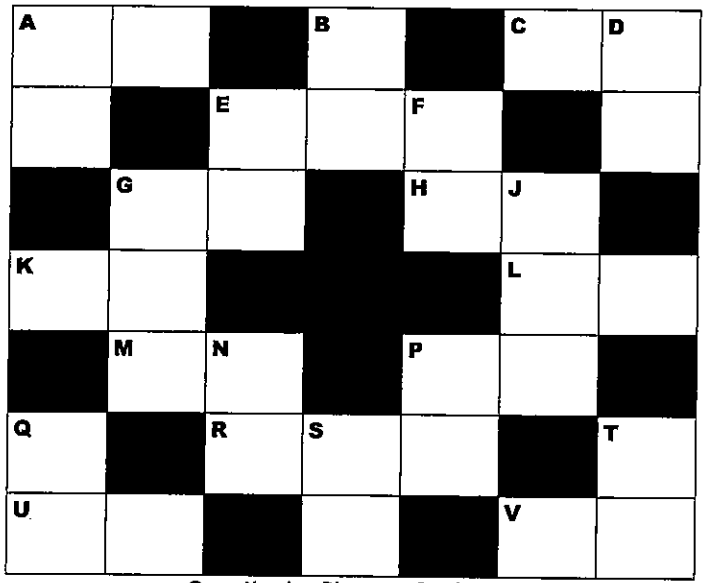
**S.** The decade that 27 is closer to




**T.** The perimeter of the pentagon



# CROSS-NUMBER PUZZLE 4






## ACROSS:

**A.** 3 + 7 + 6 + 4 + 8

**C.** The next number in the pattern:
31, 33, 35, 37, ☐

**E.** The number that is 2 less than 463

**G.** An even number

**H.** The number that means 5 tens and 9 ones

**K.** The number of cents in 5 dimes and 9 pennies

**L.** 56 - 10 - 10 - 10 - 10

**M.** 10 - 3 = ◯ ; 9 - 3 = ☐
Solve: ◯ + ☐

**P.** A number less than 60

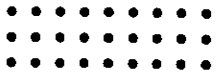
**R.** The number that is two more than seven hundred twenty-eight

**U.** The decade that 73 is closer to


**V.** 53 - 6

## DOWN:

**A.** The number of dots in the array



**B.** 64 + 32

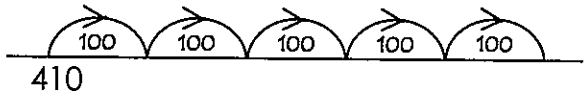
**D.** 64 + 10 + 10 + 10 + 2

**E.** 47 - 7

**F.** A number between 10 and 20

**G.** Choose the greatest number:
291, 192, 129, 219

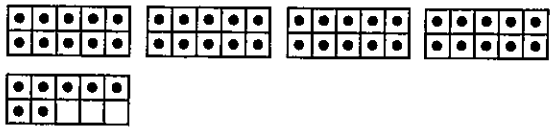
**J.** The number reached on the last hop



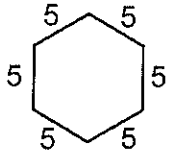

**N.** An odd number

**P.** 47 + 3

**Q.** The number shown by the ten-frames

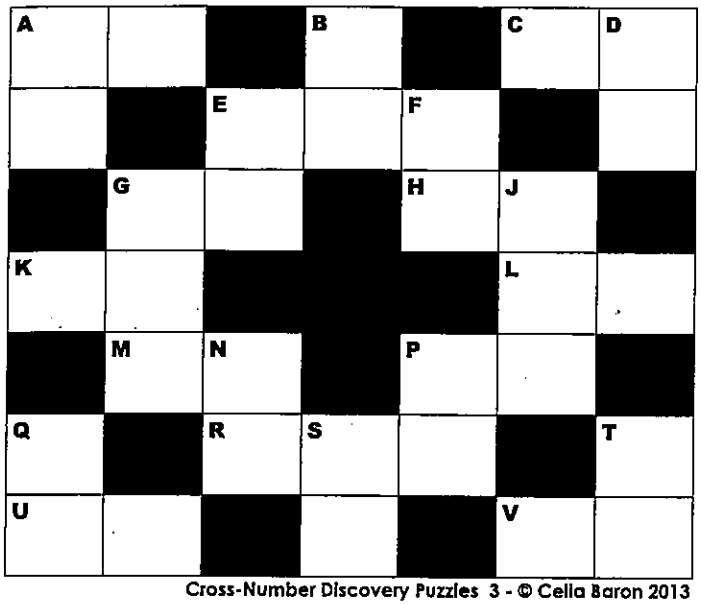


**S.** The perimeter of the hexagon




**T.** The number of minutes in 1 hour and 7 minutes

# CROSS-NUMBER PUZZLE 5






## ACROSS:

**A.** 88 - 10 - 10 - 10 - 10

**C.** 4 + 6 + 2 + 8 + 3

**E.** Choose the greatest number:
915, 519, 951, 591

**G.** 71 - 6

**H.** An odd number

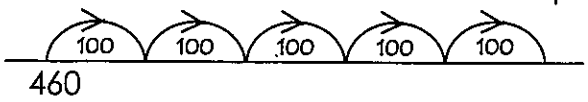
**K.** The number of days in 1 week and 4 days

**L.** 44 + 33

**M.** 44 + 10 + 10 + 10 + 3

**P.** An even number

**R.** The number reached on the last hop



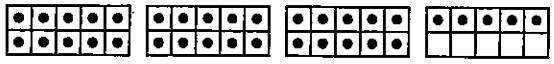

**U.** The number of cents in 8 dimes and 1 nickel

**V.** The next number in the pattern:
46, 48, 50, 52, ☐

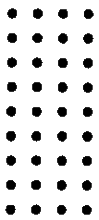
## DOWN:

**A.** 35 + 5

**B.** The number shown by the ten-frames



**D.** The number of dots in the array



**E.** A number between 90 and 100

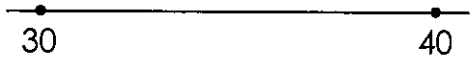
**F.** 8 - 3 = ◯ ; 10 - 3 = ☐
Solve: ◯ + ☐

**G.** A number between 600 and 700

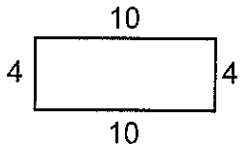
**J.** The number that is 2 more than five hundred sixty-eight

**N.** A number less than 80

**P.** The decade that 37 is closer to



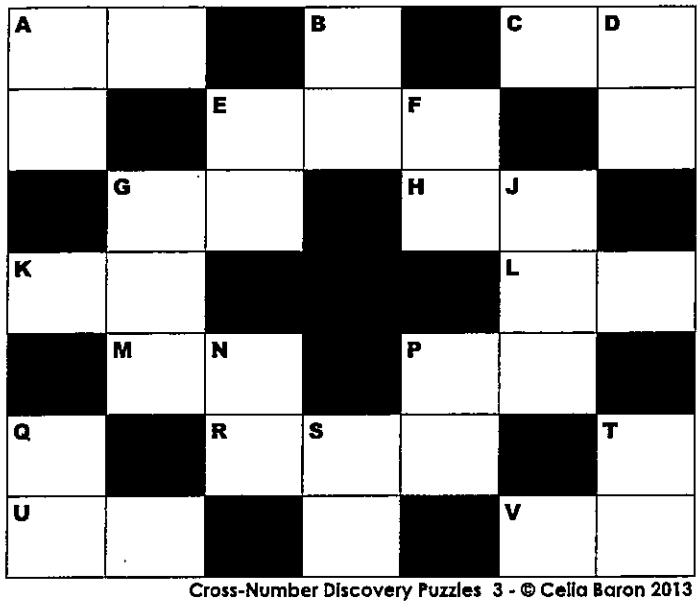

**Q.** The perimeter of the rectangle




**S.** The number that means 6 tens and 4 ones

**T.** 60 + 4

# CROSS-NUMBER PUZZLE 6






## ACROSS:

**A.** 47 - 7

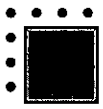
**C.** 10 - 5 = ◯ ; 10 - 4 = ☐
Solve: ◯ + ☐

**E.** The number that is 2 less than 170

**G.** An even number

**H.** 1 + 9 + 3 + 9 + 1

**K.** The number of dots shown and hidden in the array

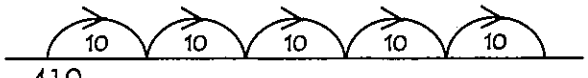


**L.** The number of minutes in 1 hour and 8 minutes

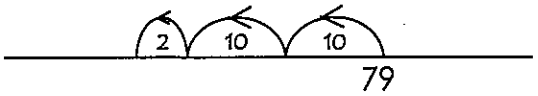
**M.** 65 + 32

**P.** A number between 50 and 60

**R.** The number reached on the last hop



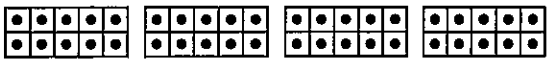

**U.** The number reached on the last hop




**V.** 79 - 22

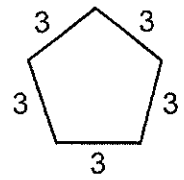
## DOWN:

**A.** The number shown by the ten-frames



**B.** 40 - 4

**D.** The perimeter of the pentagon




**E.** 5 + ☐ = 10 ; 25 + ☐ = 30
Solve: ☐ + ☐

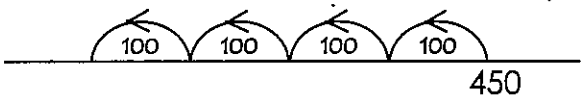
**F.** An even number

**G.** The number that means 3 hundreds, 6 tens and 9 ones

**J.** 300 + 60 + 9

**N.** A number less than 80

**P.** The number reached on the last hop

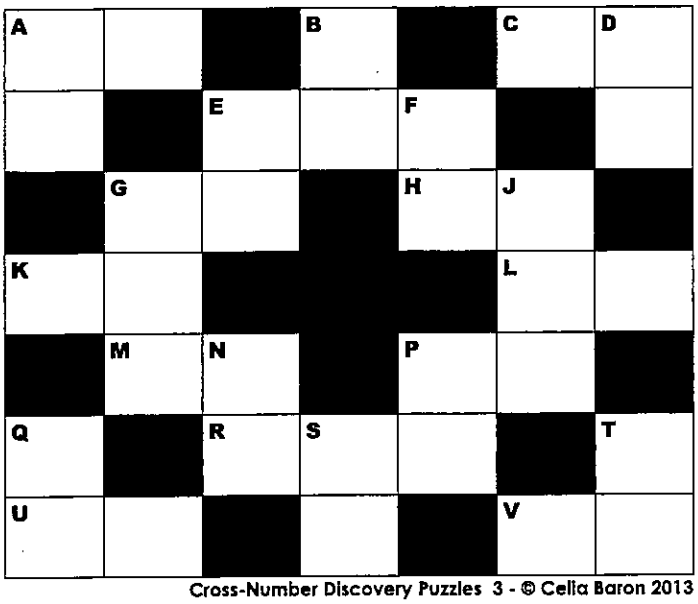



**Q.** The number of cents in one quarter

**S.** The next number in the pattern:
40, 45, 50, 55, ☐

**T.** 52 - 5

# CROSS-NUMBER PUZZLE 7






## ACROSS:

**A.** 1 + ☐ = 10 ; 21 + ☐ = 30
Solve: ☐ + ☐

**C.** The next number in the pattern:
24, 22, 20, 18, ☐

**E.** Choose the greatest number:
560, 605, 506, 600

**G.** A number less than 40

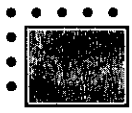
**H.** A number between 80 and 90

**K.** The number of cents in 1 quarter and 1 dime

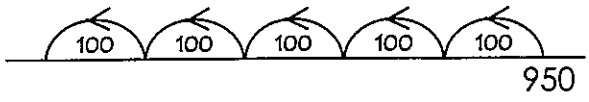
**L.** 47 + 52

**M.** 91 - 6

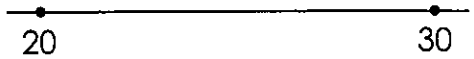
**P.** The number of dots shown and hidden in the array



**R.** The number reached on the last hop




**U.** Choose the decade 26 is closer to

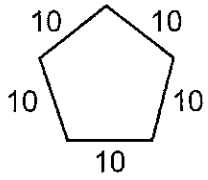



**V.** 3 + 7 + 6 + 7 + 3

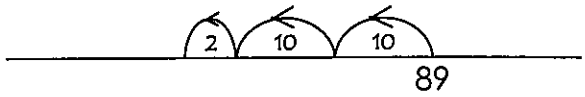
## DOWN:

**A.** 10 - 2 = ◯ ; 10 - 8 = ☐
Solve: ◯ + ☐

**B.** The perimeter of the pentagon




**D.** The number reached on the last hop

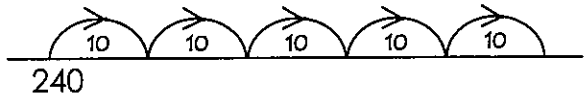



**E.** 89 - 22

**F.** The number that means 5 tens and 8 ones

**G.** The number that means 3 hundreds, 5 tens and 8 ones

**J.** The number reached on the last hop

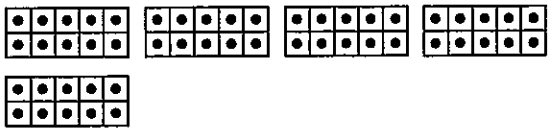



**N.** A number between 50 and 60

**P.** An even number

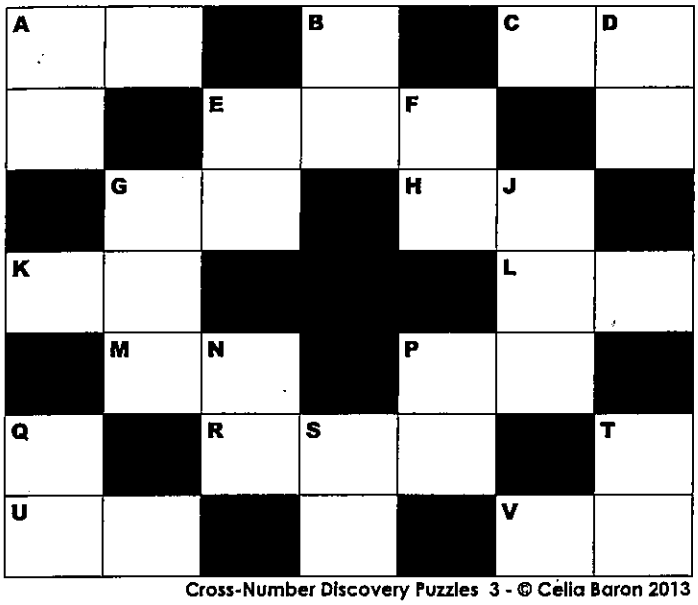
**Q.** The number of minutes in 1 hour and 3 minutes

**S.** The number shown by the ten-frames



**T.** 50 - 4

# CROSS-NUMBER PUZZLE 8






## ACROSS:

**A.** 2 + ☐ = 10 ; 22 + ☐ = 30
Solve: ☐ + ☐

**C.** 70 + 7

**E.** 700 + 70 + 7

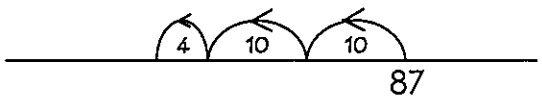
**G.** The number of days in the month of February (non-leap year)

**H.** The number of days in the month of February (leap year)

**K.** The number of cents in 1 quarter and 2 nickels

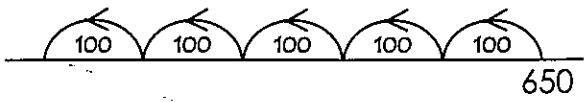
**L.** 87 - 24

**M.** The number reached on the last hop




**P.** An even number

**R.** The number reached on the last hop

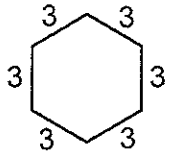



**U.** The number of dots shown and hidden in the array

**V.** 4 + 6 + 9 + 6 + 4

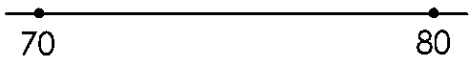
## DOWN:

**A.** The perimeter of the hexagon




**B.** 53 + 44

**D.** The decade that 74 is closer to

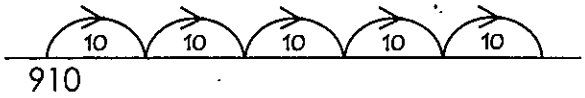



**E.** 84 - 6

**F.** 67 + 5

**G.** Choose the least number:
265, 652, 256, 625

**J.** The number reached on the last hop

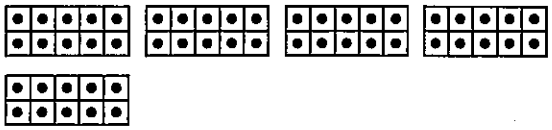



**N.** A number between 30 and 40

**P.** 10 - 3 = ◯ ; 10 - 7 = ☐
Solve: ◯ + ☐

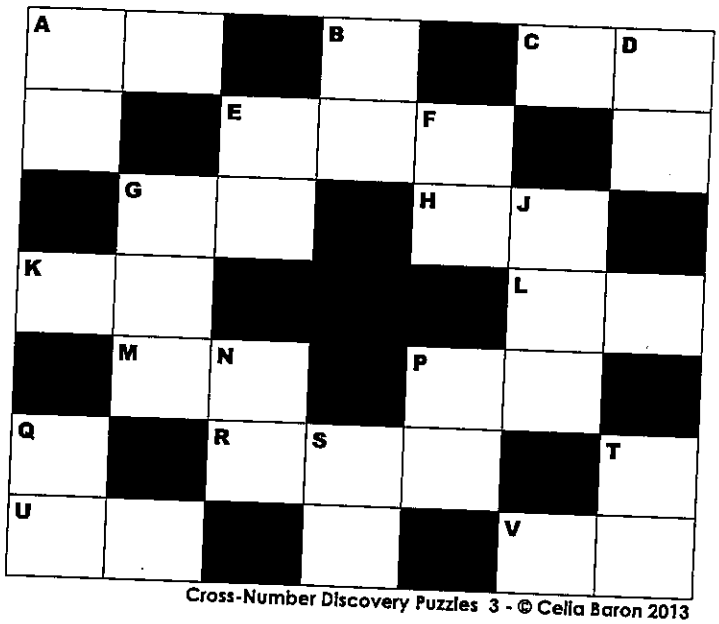
**Q.** 50 - 5

**S.** The number shown by the ten-frames



**T.** The next number in the pattern:
67, 65, 63, 61, ☐

# CROSS-NUMBER PUZZLE 9






## ACROSS:

**A.** 3 + 7 + 2 + 7 + 3

**C.** 52 - 6

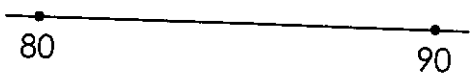
**E.** The number that is 2 more than 800

**G.** A number between 30 and 40

**H.** 10 - 3 = ◯ ; 10 - 4 = ☐
Solve: ◯ + ☐

**K.** The number of cents in 1 quarter and 4 pennies

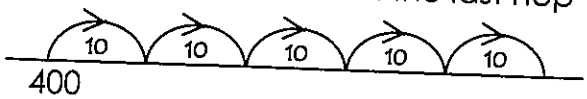
**L.** The decade that 86 is closer to




**M.** An even number

**P.** A number less than 80

**R.** The number reached on the last hop

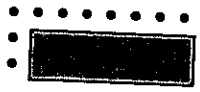



**U.** 76 - 6

**V.** 1 + ☐ = 10 ; 21 + ☐ = 30
Solve: ☐ + ☐

## DOWN:

**A.** The number of dots shown and hidden in the array



**B.** The number reached on the last hop


**D.** 70 - 5

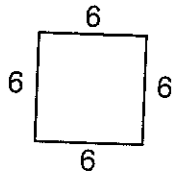
**E.** 90 - 5

**F.** A number between 20 and 30

**G.** 300 + 90 + 9

**J.** The number that means 3 hundreds, 9 tens and 9 ones

**N.** The perimeter of the square



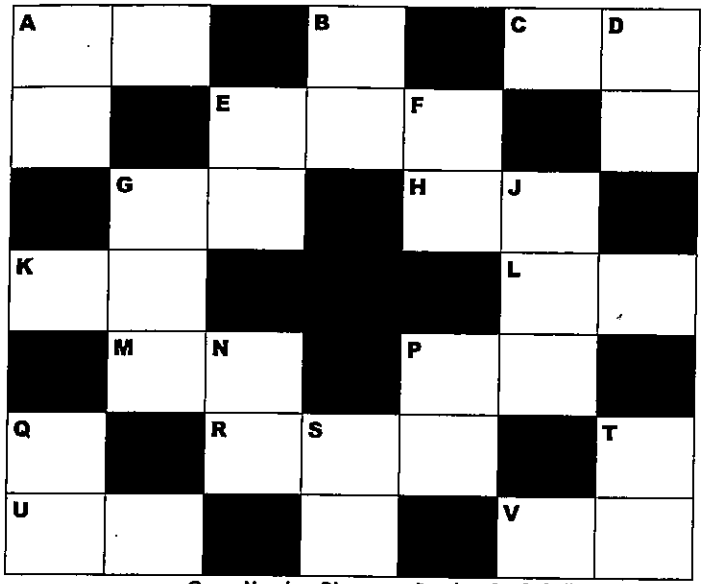

**P.** The next number in the pattern:
50, 55, 60, 65, ☐

**Q.** 88 - 31

**S.** 88 - 10 - 10 -10 - 1

**T.** 34 + 34

# CROSS-NUMBER PUZZLE 10






## ACROSS:

**A.** The number of cents in 1 quarter and 2 dimes

**C.** 8 + 2 + 4 + 2 + 8

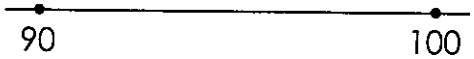
**E.** 800 + 60 + 7

**G.** 60 + 7

**H.** A number between 90 and 100

**K.** 3 + ☐ = 10 ; 23 + ☐ = 30
Solve: ☐ + ☐

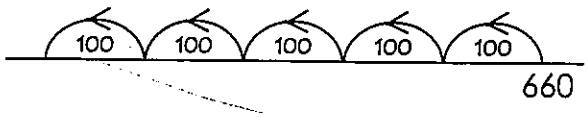
**L.** The decade that 94 is closer to




**M.** The number of dots shown and hidden in the array

**P.** An even number

**R.** The number reached on the last hop




**U.** 95 - 34

**V.** 95 - 10 - 10 - 10 - 4

## DOWN:

**A.** The next number in the pattern:
49, 47, 45, 43, ☐

**B.** 60 - 4

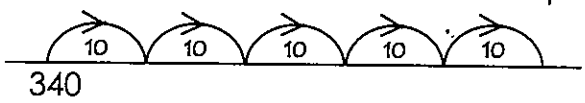
**D.** 50 - 4

**E.** A number less than 90

**F.** 46 + 33

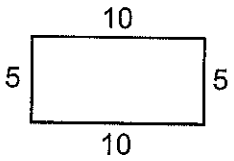
**G.** A number between 600 and 700

**J.** The number reached on the last hop




**N.** An odd number

**P.** The perimeter of the rectangle




**Q.** The number that means 9 tens and 6 ones

**S.** The number of minutes in 1 hour and 1 minute

**T.** 10 - 0 = ◯ ; 10 - 9 = ☐
Solve: ◯ + ☐

# CROSS-NUMBER PUZZLE 1

| | | | | | | |
|---|---|---|---|---|---|---|
| A 2 | 7 | ■ | B 2 | ■ | C 1 | D 3 |
| 0 | ■ | E 4 | 5 | F 2 | ■ | 0 |
| ■ | G 8 | 6 | ■ | H 5 | J 9 | ■ |
| K 1 | 1 | ■ | ■ | ■ | L 6 | 0 |
| ■ | M 2 | N 8 | ■ | P 9 | 4 | ■ |
| Q 5 | ■ | R 6 | S 5 | 0 | ■ | T 2 |
| U 7 | 8 | ■ | 7 | ■ | V 7 | 8 |



## ACROSS:

**A.** 32 - 5

**C.** The number of cents in 1 dime and 3 pennies

**E.** Choose the greatest number:
425, 245, 452, 254

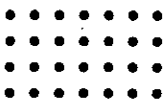
**G.** 80 + 6

**H.** An odd number

**K.** 8 - 2 = ◯ ; 8 - 3 = ▭
Solve: ◯ + ▭

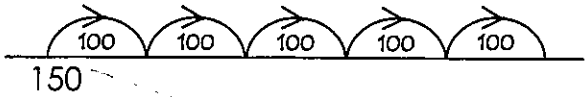
**L.** The number of minutes in 1 hour

**M.** The number of dots in the array

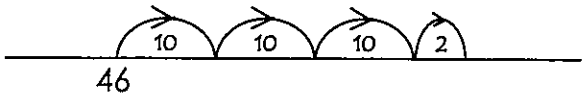


**P.** A number greater than 90

**R.** The number reached on the last hop



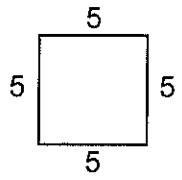

**U.** The number reached on the last hop



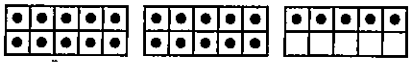

**V.** 46 + 32

## DOWN:

**A.** The perimeter of the square




**B.** The number shown by the ten-frames



**D.** 25 + 5

**E.** An even number

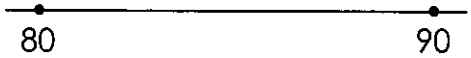
**F.** The next number in the pattern:
17, 19, 21, 23, ▭

**G.** A number between 800 and 900

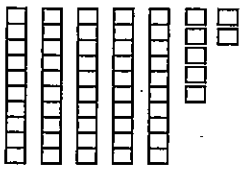
**J.** The number that is 2 more than 962

**N.** A number between 80 and 90

**P.** The decade that 87 is closer to




**Q.** The number shown by the blocks



**S.** The number that means 5 tens and 7 ones

**T.** 5 + 5 + 4 + 6 + 8

# CROSS-NUMBER PUZZLE 2

| | | | | | | |
|---|---|---|---|---|---|---|
| A 4 | 0 | ■ | B 2 | ■ | C 1 | D 3 |
| 8 | ■ | E 3 | 6 | F 8 | ■ | 0 |
| ■ | G 2 | 1 | ■ | H 6 | J 7 | ■ |
| K 8 | 0 | ■ | ■ | ■ | L 2 | 9 |
| ■ | M 1 | N 6 | ■ | P 3 | 0 | ■ |
| Q 3 | ■ | R 5 | S 7 | 4 | ■ | T 7 |
| U 4 | 5 | ■ | 9 | ■ | V 5 | 9 |



## ACROSS:

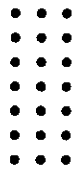
**A.** 46 - 6

**C.** 9 - 2 = ◯ ; 9 - 3 = ▭

Solve: ◯ + ▭

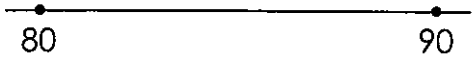
**E.** Choose the least number:
386, 638, 368, 683

**G.** The number of dots in the array



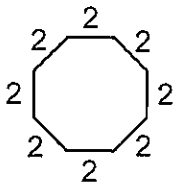
**H.** 73 - 6

**K.** The decade that 83 is closer to




**L.** 4 + 6 + 3 + 7 + 9

**M.** The perimeter of the octagon




**P.** An even number

**R.** The number that is 2 more than 572

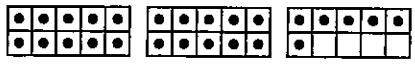
**U.** The number of cents in 4 dimes and 1 nickel

**V.** 89 - 10 - 10 - 10

## DOWN:

**A.** The next number in the pattern:
40, 42, 44, 46, ▭

**B.** The number shown by the ten-frames



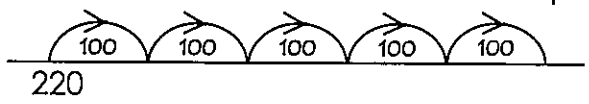
**D.** 26 + 4

**E.** The number of days in the month of January

**F.** A number between 80 and 90

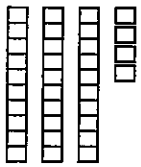
**G.** A number less than 300

**J.** The number reached on the last hop



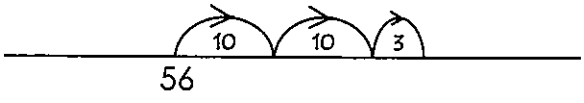

**N.** An odd number

**P.** The number shown by the blocks



**Q.** The number that means 3 tens and 4 ones

**S.** The number reached on the last hop




**T.** 56 + 23

# CROSS-NUMBER PUZZLE 3

| | | | | | | |
|---|---|---|---|---|---|---|
| A 3 | 9 | ■ | B 8 | ■ | C 1 | D 4 |
| 2 | ■ | E 3 | 0 | F 7 | ■ | 0 |
| ■ | G 2 | 6 | ■ | H 5 | J 8 | ■ |
| K 9 | 8 | ■ | ■ | ■ | L 9 | 8 |
| ■ | M 9 | N 9 | ■ | P 4 | 0 | ■ |
| Q 4 | ■ | R 5 | S 3 | 6 | ■ | T 2 |
| U 6 | 8 | ■ | 0 | ■ | V 4 | 5 |



## ACROSS:

**A.** 45 - 6

**C.** 8 - 0 = ◯ ; 6 - 0 = ☐
Solve: ◯ + ☐

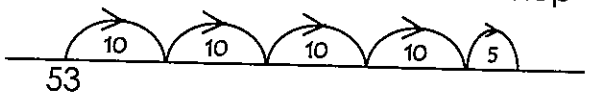
**E.** A number between 300 and 400

**G.** 3 + 7 + 2 + 8 + 6

**H.** A number greater than 50

**K.** 53 + 45

**L.** The number reached on the last hop




**M.** A number with both digits the same

**P.** An even number

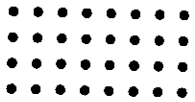
**R.** The number that is 2 less than 538

**U.** The number of minutes in 1 hour and 8 minutes

**V.** 85 - 10 - 10 - 10 - 10

## DOWN:

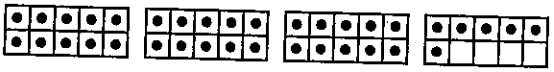
**A.** The number of dots In the array



**B.** The next number in the pattern:
40, 50, 60, 70, ☐

**D.** 36 + 4

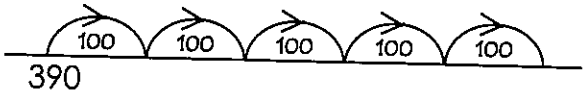
**E.** The number shown by the ten-frames



**F.** The number of cents in 7 dimes and 1 nickel

**G.** Choose the least number:
928, 298, 829, 289

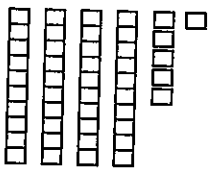
**J.** The number reached on the last hop



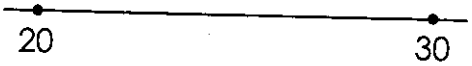

**N.** An odd number

**P.** The number that means 4 tens and 6 ones

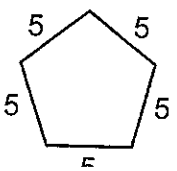
**Q.** The number shown by the blocks



**S.** The decade that 27 is closer to




**T.** The perimeter of the pentagon



# CROSS-NUMBER PUZZLE 4

| | | | | | | |
|---|---|---|---|---|---|---|
| A 2 | 8 | | B 9 | | C 3 | D 9 |
| 7 | | E 4 | 6 | F 1 | | 6 |
| | G 2 | 0 | | H 5 | J 9 | |
| K 5 | 9 | | | | L 1 | 6 |
| | M 1 | N 3 | | P 5 | 0 | |
| Q 4 | | R 7 | S 3 | 0 | | T 6 |
| U 7 | 0 | | 0 | | V 4 | 7 |



## ACROSS:

**A.** 3 + 7 + 6 + 4 + 8

**C.** The next number in the pattern:
31, 33, 35, 37, ☐

**E.** The number that is 2 less than 463

**G.** An even number

**H.** The number that means 5 tens and 9 ones

**K.** The number of cents in 5 dimes and 9 pennies

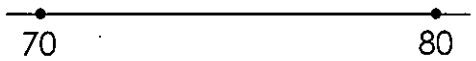
**L.** 56 - 10 - 10 - 10 - 10

**M.** 10 - 3 = ◯ ; 9 - 3 = ☐
Solve: ◯ + ☐

**P.** A number less than 60

**R.** The number that is two more than seven hundred twenty-eight

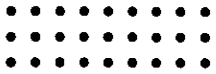
**U.** The decade that 73 is closer to




**V.** 53 - 6

## DOWN:

**A.** The number of dots in the array



**B.** 64 + 32

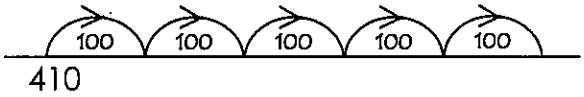
**D.** 64 + 10 + 10 + 10 + 2

**E.** 47 - 7

**F.** A number between 10 and 20

**G.** Choose the greatest number:
291, 192, 129, 219

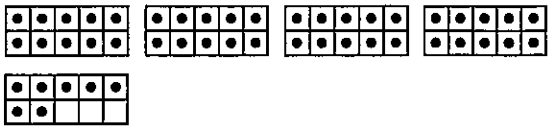
**J.** The number reached on the last hop



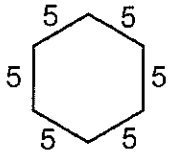

**N.** An odd number

**P.** 47 + 3

**Q.** The number shown by the ten-frames



**S.** The perimeter of the hexagon




**T.** The number of minutes in 1 hour and 7 minutes

# CROSS-NUMBER PUZZLE 5

| | | | | | | |
|---|---|---|---|---|---|---|
| A 4 | 8 | ■ | B 3 | ■ | C 2 | D 3 |
| 0 | ■ | E 9 | 5 | F 1 | ■ | 6 |
| ■ | G 6 | 5 | ■ | H 2 | J 5 | ■ |
| K 1 | 1 | ■ | ■ | ■ | L 7 | 7 |
| ■ | M 7 | N 7 | ■ | P 4 | 0 | ■ |
| Q 2 | ■ | R 9 | S 6 | 0 | ■ | T 6 |
| U 8 | 5 | ■ | 4 | ■ | V 5 | 4 |



## ACROSS:

**A.** 88 - 10 - 10 - 10 - 10

**C.** 4 + 6 + 2 + 8 + 3

**E.** Choose the greatest number:
915, 519, 951, 591

**G.** 71 - 6

**H.** An odd number

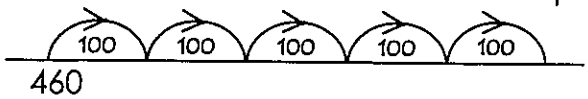
**K.** The number of days in 1 week and 4 days

**L.** 44 + 33

**M.** 44 + 10 + 10 + 10 + 3

**P.** An even number

**R.** The number reached on the last hop



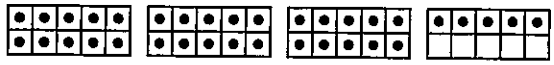

**U.** The number of cents in 8 dimes and 1 nickel

**V.** The next number in the pattern:
46, 48, 50, 52, ☐

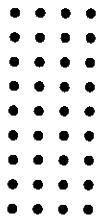
## DOWN:

**A.** 35 + 5

**B.** The number shown by the ten-frames



**D.** The number of dots in the array



**E.** A number between 90 and 100

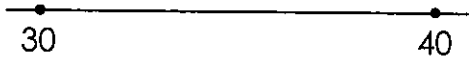
**F.** 8 - 3 = ◯ ; 10 - 3 = ▭
Solve: ◯ + ▭

**G.** A number between 600 and 700

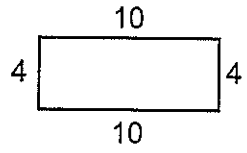
**J.** The number that is 2 more than five hundred sixty-eight

**N.** A number less than 80

**P.** The decade that 37 is closer to




**Q.** The perimeter of the rectangle




**S.** The number that means 6 tens and 4 ones

**T.** 60 + 4

# CROSS-NUMBER PUZZLE 6

| | | | | | | |
|---|---|---|---|---|---|---|
| A 4 | 0 | ■ | B 3 | ■ | C 1 | D 1 |
| 0 | ■ | E 1 | 6 | F 8 | ■ | 5 |
| ■ | G 3 | 0 | ■ | H 2 | J 3 | ■ |
| K 1 | 6 | ■ | ■ | ■ | L 6 | 8 |
| ■ | M 9 | N 7 | ■ | P 5 | 9 | ■ |
| Q 2 | ■ | R 4 | S 6 | 0 | ■ | T 4 |
| U 5 | 7 | ■ | 0 | ■ | V 5 | 7 |



## ACROSS:

**A.** 47 - 7

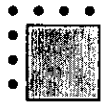
**C.** 10 - 5 = ◯ ; 10 - 4 = □
Solve: ◯ + □

**E.** The number that is 2 less than 170

**G.** An even number

**H.** 1 + 9 + 3 + 9 + 1

**K.** The number of dots shown and hidden in the array

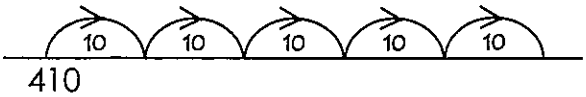


**L.** The number of minutes in 1 hour and 8 minutes

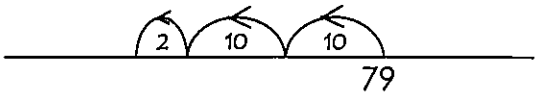
**M.** 65 + 32

**P.** A number between 50 and 60

**R.** The number reached on the last hop



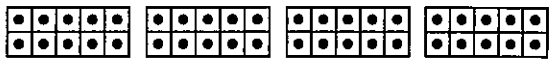

**U.** The number reached on the last hop




**V.** 79 - 22

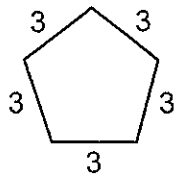
## DOWN:

**A.** The number shown by the ten-frames



**B.** 40 - 4

**D.** The perimeter of the pentagon




**E.** 5 + □ = 10 ; 25 + □ = 30
Solve: □ + □

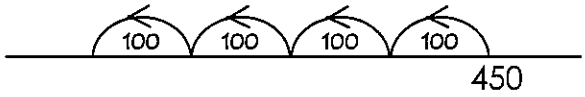
**F.** An even number

**G.** The number that means 3 hundreds, 6 tens and 9 ones

**J.** 300 + 60 + 9

**N.** A number less than 80

**P.** The number reached on the last hop




**Q.** The number of cents in one quarter

**S.** The next number in the pattern:
40, 45, 50, 55, □

**T.** 52 - 5

# CROSS-NUMBER PUZZLE 7

| | | | | | | |
|---|---|---|---|---|---|---|
| A 1 | 8 | ■ | B 5 | ■ | C 1 | D 6 |
| 0 | ■ | E 6 | 0 | F 5 | ■ | 7 |
| ■ | G 3 | 7 | ■ | H 8 | J 2 | ■ |
| K 3 | 5 | ■ | ■ | ■ | L 9 | 9 |
| ■ | M 8 | N 5 | ■ | P 2 | 0 | ■ |
| Q 6 | ■ | R 4 | S 5 | 0 | ■ | T 4 |
| U 3 | 0 | ■ | 0 | ■ | V 2 | 6 |



## ACROSS:

**A.** 1 + ☐ = 10 ; 21 + ☐ = 30
Solve: ☐ + ☐

**C.** The next number in the pattern:
24, 22, 20, 18, ☐

**E.** Choose the greatest number:
560, 605, 506, 600

**G.** A number less than 40

**H.** A number between 80 and 90

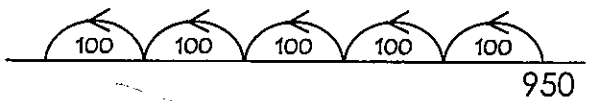
**K.** The number of cents in 1 quarter and 1 dime

**L.** 47 + 52

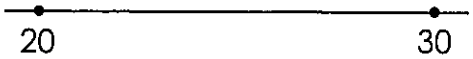
**M.** 91 - 6

**P.** The number of dots shown and hidden in the array

**R.** The number reached on the last hop




**U.** Choose the decade 26 is closer to

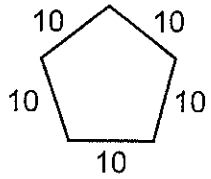



**V.** 3 + 7 + 6 + 7 + 3

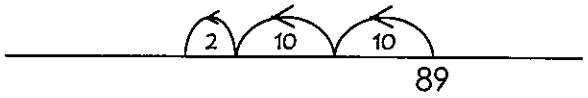
## DOWN:

**A.** 10 - 2 = ◯ ; 10 - 8 = ☐
Solve: ◯ + ☐

**B.** The perimeter of the pentagon




**D.** The number reached on the last hop

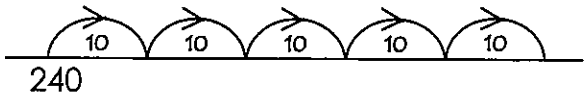



**E.** 89 - 22

**F.** The number that means 5 tens and 8 ones

**G.** The number that means 3 hundreds, 5 tens and 8 ones

**J.** The number reached on the last hop

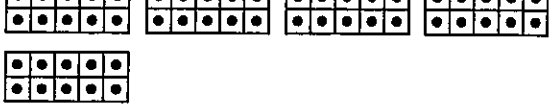



**N.** A number between 50 and 60

**P.** An even number

**Q.** The number of minutes in 1 hour and 3 minutes

**S.** The number shown by the ten-frames



**T.** 50 - 4

# CROSS-NUMBER PUZZLE 8

| | | | | | | |
|---|---|---|---|---|---|---|
| A 1 | 6 | ■ | B 9 | ■ | C 7 | D 7 |
| 8 | ■ | E 7 | 7 | F 7 | ■ | 0 |
| ■ | G 2 | 8 | ■ | H 2 | J 9 | ■ |
| K 3 | 5 | ■ | ■ | ■ | L 6 | 3 |
| ■ | M 6 | N 3 | ■ | P 1 | 0 | ■ |
| Q 4 | ■ | R 1 | S 5 | 0 | ■ | T 5 |
| U 5 | 0 | ■ | 0 | ■ | V 2 | 9 |



## ACROSS:

**A.** 2 + ☐ = 10 ; 22 + ☐ = 30
Solve: ☐ + ☐

**C.** 70 + 7

**E.** 700 + 70 + 7

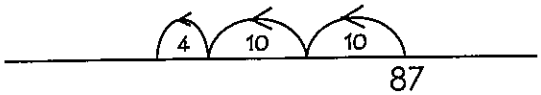
**G.** The number of days in the month of February (non-leap year)

**H.** The number of days in the month of February (leap year)

**K.** The number of cents in 1 quarter and 2 nickels

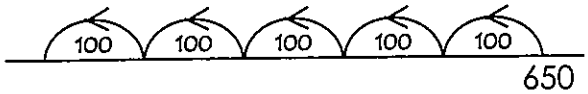
**L.** 87 - 24

**M.** The number reached on the last hop




**P.** An even number

**R.** The number reached on the last hop

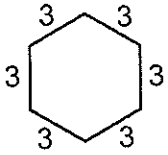



**U.** The number of dots shown and hidden in the array

**V.** 4 + 6 + 9 + 6 + 4

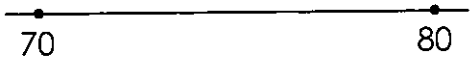
## DOWN:

**A.** The perimeter of the hexagon




**B.** 53 + 44

**D.** The decade that 74 is closer to

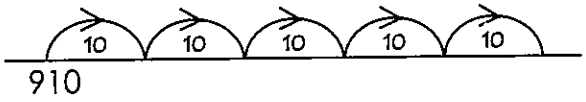



**E.** 84 - 6

**F.** 67 + 5

**G.** Choose the least number:
265, 652, 256, 625

**J.** The number reached on the last hop

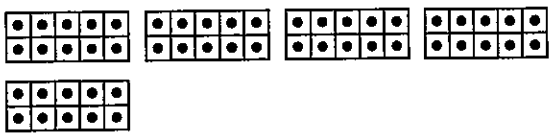



**N.** A number between 30 and 40

**P.** 10 - 3 = ◯ ; 10 - 7 = ☐
Solve: ◯ + ☐

**Q.** 50 - 5

**S.** The number shown by the ten-frames



**T.** The next number in the pattern:
67, 65, 63, 61, ☐

# CROSS-NUMBER PUZZLE 9

| | | | | | | |
|---|---|---|---|---|---|---|
| A 2 | 2 | ■ | B 3 | ■ | C 4 | D 6 |
| 4 | ■ | E 8 | 0 | F 2 | ■ | 5 |
| ■ | G 3 | 5 | ■ | H 1 | J 3 | ■ |
| K 2 | 9 | ■ | ■ | ■ | L 9 | 0 |
| ■ | M 9 | N 2 | ■ | P 7 | 9 | ■ |
| Q 5 | ■ | R 4 | S 5 | 0 | ■ | T 6 |
| U 7 | 0 | ■ | 7 | ■ | V 1 | 8 |



## ACROSS:

**A.** 3 + 7 + 2 + 7 + 3

**C.** 52 - 6

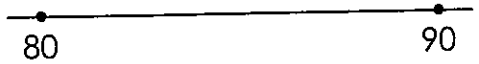
**E.** The number that is 2 more than 800

**G.** A number between 30 and 40

**H.** 10 - 3 = ◯ ; 10 - 4 = □
Solve: ◯ + □

**K.** The number of cents in 1 quarter and 4 pennies

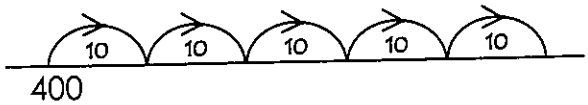
**L.** The decade that 86 is closer to




**M.** An even number

**P.** A number less than 80

**R.** The number reached on the last hop



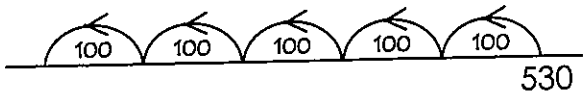

**U.** 76 - 6

**V.** 1 + □ = 10 ; 21 + □ = 30
Solve: □ + □

## DOWN:

**A.** The number of dots shown and hidden in the array

**B.** The number reached on the last hop




**D.** 70 - 5

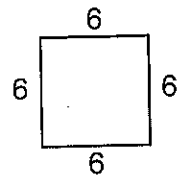
**E.** 90 - 5

**F.** A number between 20 and 30

**G.** 300 + 90 + 9

**J.** The number that means 3 hundreds, 9 tens and 9 ones

**N.** The perimeter of the square




**P.** The next number in the pattern:
50, 55, 60, 65, □

**Q.** 88 - 31

**S.** 88 - 10 - 10 -10 - 1

**T.** 34 + 34

# CROSS-NUMBER PUZZLE 10

| | | | | | | |
|---|---|---|---|---|---|---|
| A 4 | 5 | ■ | B 5 | ■ | C 2 | D 4 |
| 1 | ■ | E 8 | 6 | F 7 | ■ | 6 |
| ■ | G 6 | 7 | ■ | H 9 | J 3 | ■ |
| K 1 | 4 | ■ | ■ | ■ | L 9 | 0 |
| ■ | M 2 | N 4 | ■ | P 3 | 0 | ■ |
| Q 9 | ■ | R 1 | S 6 | 0 | ■ | T 1 |
| U 6 | 1 | ■ | 1 | ■ | V 6 | 1 |



## ACROSS:

**A.** The number of cents in 1 quarter and 2 dimes

**C.** 8 + 2 + 4 + 2 + 8

**E.** 800 + 60 + 7

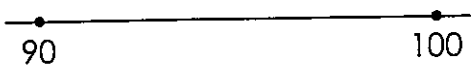
**G.** 60 + 7

**H.** A number between 90 and 100

**K.** 3 + ☐ = 10 ; 23 + ☐ = 30

Solve: ☐ + ☐

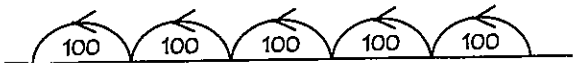
**L.** The decade that 94 is closer to




**M.** The number of dots shown and hidden in the array

**P.** An even number

**R.** The number reached on the last hop




**U.** 95 - 34

**V.** 95 - 10 - 10 - 10 - 4

## DOWN:

**A.** The next number in the pattern:

49, 47, 45, 43, ☐

**B.** 60 - 4

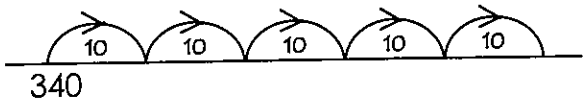
**D.** 50 - 4

**E.** A number less than 90

**F.** 46 + 33

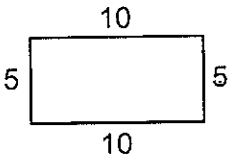
**G.** A number between 600 and 700

**J.** The number reached on the last hop




**N.** An odd number

**P.** The perimeter of the rectangle




**Q.** The number that means 9 tens and 6 ones

**S.** The number of minutes in 1 hour and 1 minute

**T.** 10 - 0 = ◯ ; 10 - 9 = ☐

Solve: ◯ + ☐

Illustrative Mathematics

# 3.OA, MD, NBT Classroom Supplies

## Task

Your teacher was just awarded $1,000 to spend on materials for your classroom. She asked all 20 of her students in the class to help her decide how to spend the money. Think about which supplies will benefit the class the most.

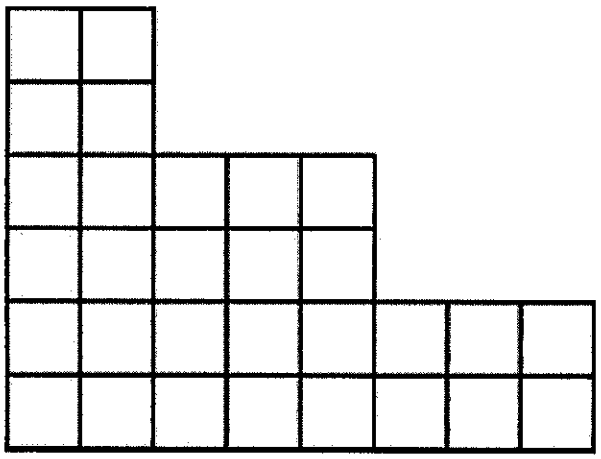
| Supplies | Cost |
|---|---|
| A box of 20 markers | $5 |
| A box of 100 crayons | $8 |
| A box of 60 pencils | $5 |
| A box of 5,000 pieces of printer paper | $40 |
| A package of 10 pads of lined paper | $15 |
| A box of 50 pieces of construction paper | $32 |
| **Books and maps** | |
| A set of 20 books about science | $250 |
| A set of books about the 50 states | $400 |
| A story book (there are 80 to choose from) | $8 |
| A map: there is one of your city, one for every state, one of the country, and one of the world to choose from | $45 |
| **Puzzles and games** | |

# 3.MD Three Hidden Rectangles

Alignments to Content Standards: 3.MD.C.7.d

## Task

There are many ways to find the area of this figure.



a. Try to find as many ways as you can to split this figure into exactly 3 rectangles. Be sure that none of the rectangles overlap and the 3 rectangles cover the entire figure.

b. For every example you found in part a, write an expression that represents the area as the sum of the three rectangles.

c. Find the total area of this figure.

## IM Commentary

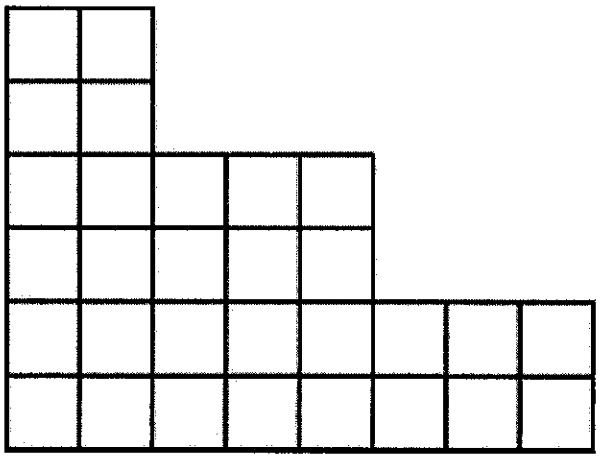
The purpose of this task is for students to decompose a figure into rectangles and then

# 3.MD Three Hidden Rectangles

Alignments to Content Standards: 3.MD.C.7.d

## Task

There are many ways to find the area of this figure.



a. Try to find as many ways as you can to split this figure into exactly 3 rectangles. Be sure that none of the rectangles overlap and the 3 rectangles cover the entire figure.

b. For every example you found in part a, write an expression that represents the area as the sum of the three rectangles.

c. Find the total area of this figure.

## IM Commentary

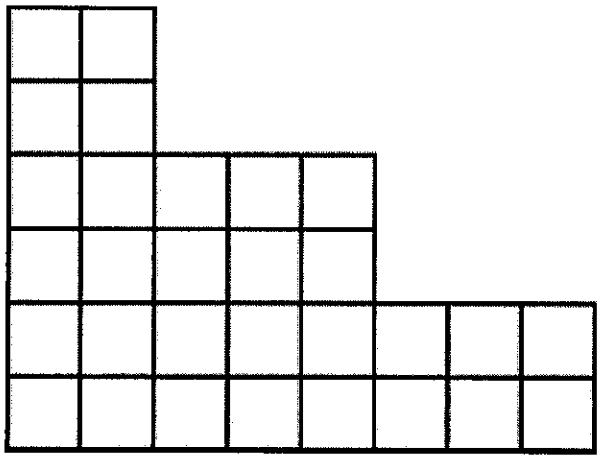
The purpose of this task is for students to decompose a figure into rectangles and then

# 3.MD Three Hidden Rectangles

Alignments to Content Standards: 3.MD.C.7.d

## Task

There are many ways to find the area of this figure.



a. Try to find as many ways as you can to split this figure into exactly 3 rectangles. Be sure that none of the rectangles overlap and the 3 rectangles cover the entire figure.

b. For every example you found in part a, write an expression that represents the area as the sum of the three rectangles.

c. Find the total area of this figure.

## IM Commentary

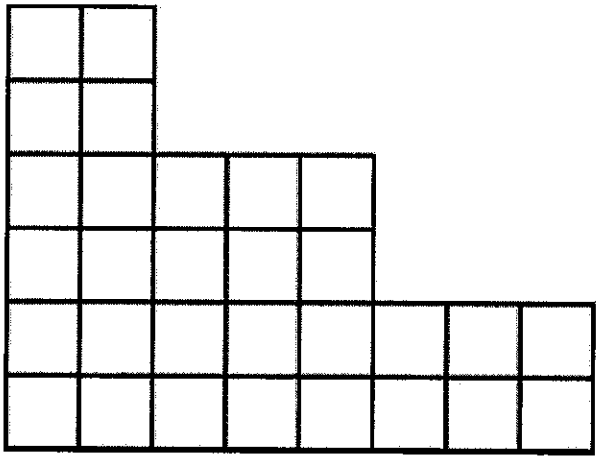
The purpose of this task is for students to decompose a figure into rectangles and then

# 3.MD Three Hidden Rectangles

Alignments to Content Standards: 3.MD.C.7.d

## Task

There are many ways to find the area of this figure.



a. Try to find as many ways as you can to split this figure into exactly 3 rectangles. Be sure that none of the rectangles overlap and the 3 rectangles cover the entire figure.

b. For every example you found in part a, write an expression that represents the area as the sum of the three rectangles.

c. Find the total area of this figure.

## IM Commentary

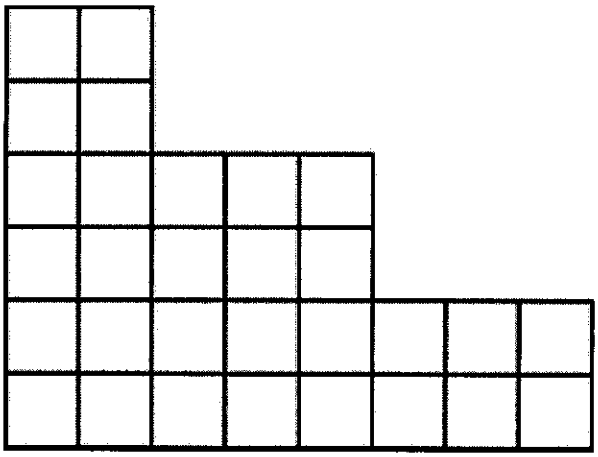
The purpose of this task is for students to decompose a figure into rectangles and then

# 3.MD Three Hidden Rectangles

**Alignments to Content Standards:** 3.MD.C.7.d

## Task

There are many ways to find the area of this figure.



a. Try to find as many ways as you can to split this figure into exactly 3 rectangles. Be sure that none of the rectangles overlap and the 3 rectangles cover the entire figure.

b. For every example you found in part a, write an expression that represents the area as the sum of the three rectangles.

c. Find the total area of this figure.

## IM Commentary

The purpose of this task is for students to decompose a figure into rectangles and then

find the total area by adding the area of all of its smaller, non-overlapping rectangles. This task also requires students to create expressions to represent the area of the entire figure as the sum of the areas of the rectangles. Students will need to see an example at the beginning, since there are different expressions that could be appropriate, and writing the directions unambiguously would be challenging reading for third graders.

This is an instructional task. The beginning is simple and allows... even invites... students to try things out that don't work. Students should have multiple copies of the figure or access to graph paper so they can experiment. There will be rich opportunities to discuss whether students have satisfied the requirements. The second part of the task is more technical and can be used as a formative assessment to see whether students can create expressions to match their ideas.

This task relies heavily on the work students have done transitioning from array to area representations for multiplication. This task requires students to attend to precision (MP 6) as they must attend to the exact number of rectangles needed, ensure that the rectangles don't overlap, and that the rectangles together cover the entire figure. Implicit in this is also that students understand how to identify whether their shapes are indeed rectangles.

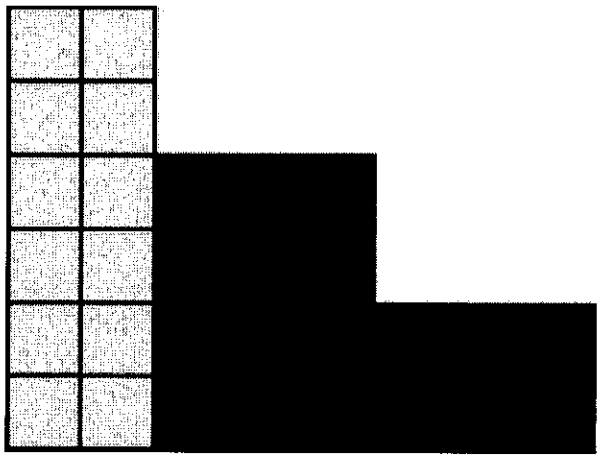
Coaches and facilitators of professional development may also want to consider using this task, or similar tasks, in workshops for teachers. Many adults do not see the five possibilities right away. These tasks are great reminders to adults that they can be learners of mathematics, too!

Edit this solution

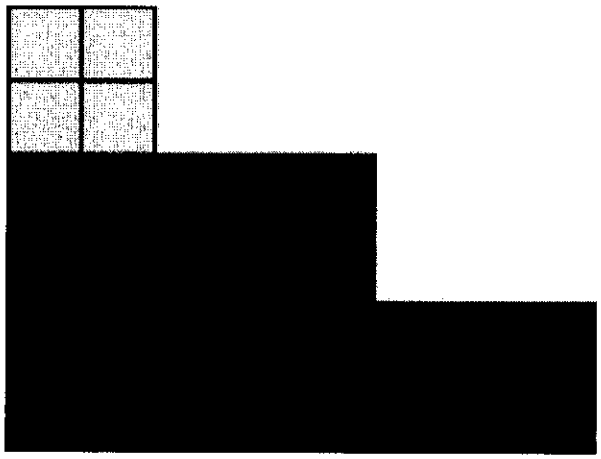
## Solution

a. and b. There are 5 ways to create 3 non-overlapping rectangles that partition the figure:

Expression: 2×2+5×2+8×2



Expression: 2×6+3×2+6×2



Expression: 2×2+5×4+3×2

c. The total area of this figure is 30 square units. Each of these different pictures shows a different way to decompose this shape into three rectangles. In each of these five decompositions, the area of the three rectangles sums to 30 square units.