

Write each ratio in two other ways.

- 13 2 : 3 \_\_\_\_\_
- 15 15 to 4 \_\_\_\_\_
- 17 6 to 13 \_\_\_\_\_
- 19  $\frac{3}{8}$  \_\_\_\_\_

- 14 5 to 9 \_\_\_\_\_
- 16 7 : 11 \_\_\_\_\_
- 18 7 : 12 \_\_\_\_\_
- 20  $\frac{6}{17}$  \_\_\_\_\_

Write 2 equivalent ratios for each ratio.

- 21 3 : 4 \_\_\_\_\_
- 23 2 : 6 \_\_\_\_\_
- 25 6 : 9 \_\_\_\_\_
- 27 2 : 1 \_\_\_\_\_

- 22 4 : 2 \_\_\_\_\_
- 24 8 : 10 \_\_\_\_\_
- 26 7 : 4 \_\_\_\_\_
- 28 6 : 15 \_\_\_\_\_

Write each ratio in simplest form.

- 29 10 : 15 \_\_\_\_\_
- 31 12 : 16 \_\_\_\_\_
- 33 14 : 35 \_\_\_\_\_
- 35 95 : 10 \_\_\_\_\_
- 37 120 : 1000 \_\_\_\_\_
- 39 75 : 25 \_\_\_\_\_

- 30 22 : 25 \_\_\_\_\_
- 32 36 : 45 \_\_\_\_\_
- 34 98 : 4 \_\_\_\_\_
- 36 91 : 63 \_\_\_\_\_
- 38 30 : 45 \_\_\_\_\_
- 40 6 : 72 \_\_\_\_\_

Look at the flowers. Write the items that each ratio compares.

- 41 4 : 2      Rose : Tulip \_\_\_\_\_
- 42 3 : 4      \_\_\_\_\_
- 43 3 : 9      \_\_\_\_\_
- 44 2 : 3      \_\_\_\_\_
- 45 4 : 9      \_\_\_\_\_
- 46 9 : 2      \_\_\_\_\_



Rose      Tulip      Daisy

4. 2.5 litres of pop is divided equally among 8 friends. How much does each drink?

5. Kate drinks 2 glasses of milk daily. Each glass contains 0.3 L of milk. How much milk does she drink per week?

6. Susan earns \$22.50 for 5 hours of babysitting. Bob earns \$12.75 for 3 hours. Who is better paid?

7. 3 T-shirts are sold for \$14.70.  
a. What is the price for each T-shirt?

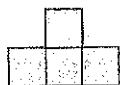
b. How much do 5 T-shirts cost?

8. Baby Sue weighed 3.2 kg at birth. She gains 150 g per week. How many kg does she weigh at 6 weeks?

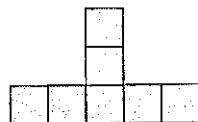


Draw the 6th pattern in the box.

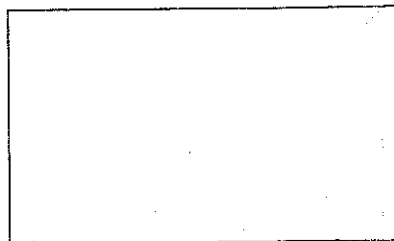
1 st



2 nd



3 rd



6 th

Solve the problems. Show your work. Round your answers to the nearest hundredth if necessary.

- 23 Susanne's hair grows 0.83 cm per month. How long does it grow in 6 months?

It grows \_\_\_\_\_ cm in 6 months.

- 24 Peggy saves \$12.50 per week. How much can she save in 5 weeks?

- 25 Gas sells at \$0.75 per litre. How much do 4 litres cost?

- 26 Brenda buys 2 litres of spring water for \$1.42. What is the price per litre?

- 27 Mark builds a 24.4-m long fence using 9 posts. How far apart are two adjacent posts?

- 28 Bill buys 2 pairs of shoes at \$39.95 per pair. How much does he pay?

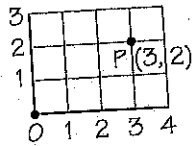
- 29 6 friends go to Canada's Wonderland. They spend \$87.00 altogether. How much does each spend if each spends an equal amount?

Plot and join the points to see what shapes they are. Then label them and answer the questions.

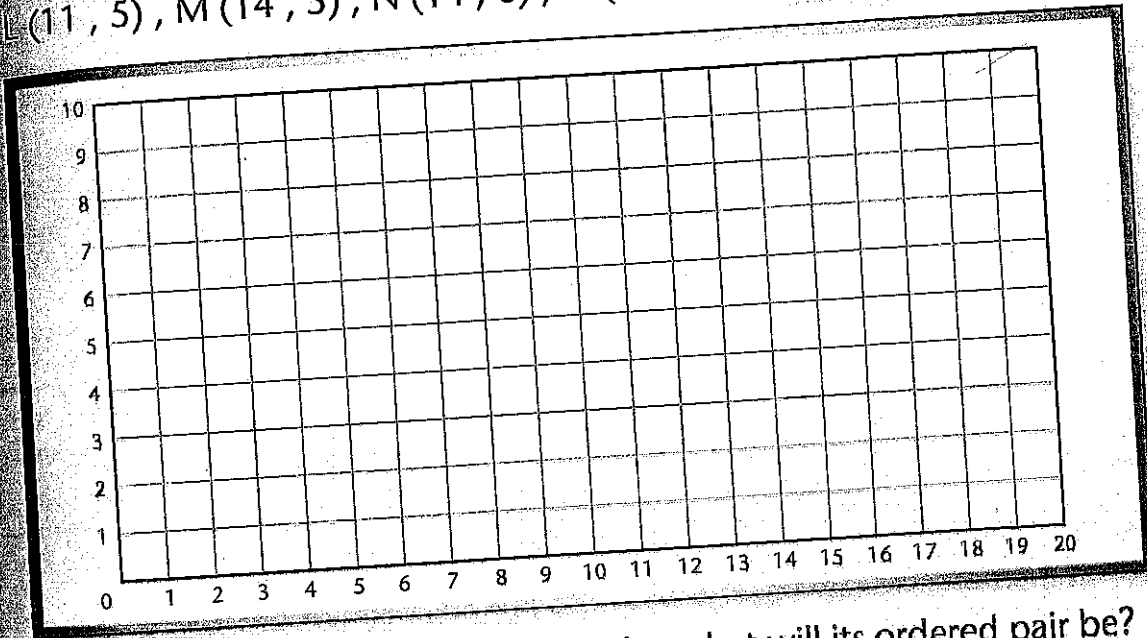


### Quick Tip

When you locate a point (P) on a grid, you can show the point clearly by writing the ordered pair.



- A (3, 5), B (2, 2), C (6, 2)
- P (5, 10), Q (9, 10), R (9, 6), S (5, 6)
- E (15, 10), F (19, 10), G (17, 6), H (13, 6)
- L (11, 5), M (14, 5), N (14, 0), O (11, 0)



- ⑩ If A is moved 1 unit up and 1 unit right, what will its ordered pair be? After the translation, what kind of triangle is  $\triangle ABC$ ?

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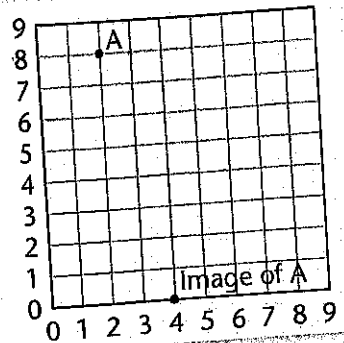
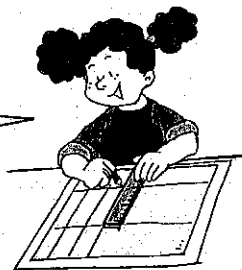
- ⑪ If H is moved 2 units right, what will its ordered pair be? After the translation, what shape is EFGH?



## MIND BOGGLER

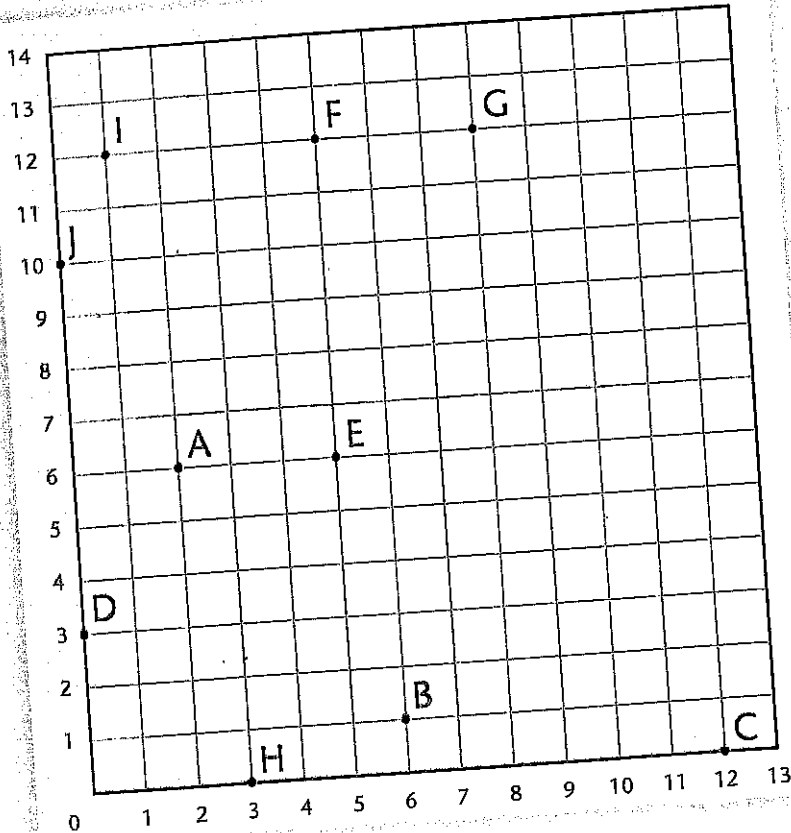
What are the coordinates of point P?

If A (2, 8) is rotated  $\frac{1}{2}$  turn about P, its image is at (4, 0).

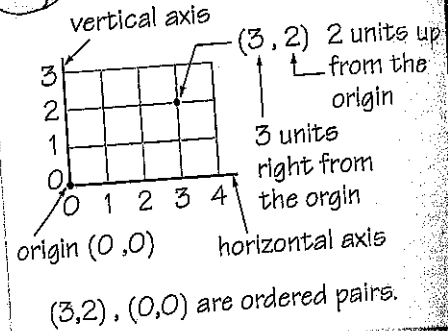


The coordinates of point P are \_\_\_\_\_.

Write ordered pairs to represent each of the points plotted on the grid and answer the questions.



### Quick Tip



- 21
- A (\_\_, \_\_)    B (\_\_, \_\_)  
 C (\_\_, \_\_)    D (\_\_, \_\_)  
 E (\_\_, \_\_)    F (\_\_, \_\_)  
 G (\_\_, \_\_)    H (\_\_, \_\_)  
 I (\_\_, \_\_)    J (\_\_, \_\_)

- 22 Join the points A, E, G and F. What shape is AEGF?
- 23 Which points have a horizontal distance of 5 units from the origin?
- 24 Which points are vertically 12 units from the origin?
- 25 Which points lie on the horizontal axis?
- 26 Which points lie on the vertical axis?
- 27 Join the point A, E and F. What is the area of  $\triangle AEF$ ?
- 28 Join the point D, A and J. What is the area of  $\triangle DAJ$ ?
- 29 Translate E 3 units up and 2 units right. What is the ordered pair of the translated image?
- 30 How do you translate F to A?
- 31 How do you translate H to C?

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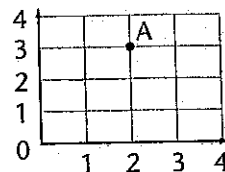
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The coordinates of point A are \_\_\_\_\_.

- A. (3,4)
- B. (4,3)
- C. (3,2)
- D. (2,3)



The translation of a point on a grid from (0,5) to (4,1) is 4 units \_\_\_\_\_ and 4 units \_\_\_\_\_.

- A. right, down
- B. right, up
- C. left, up
- D. left, down

The next 2 terms in the pattern 5, 1, 7, 2, ... are \_\_\_\_\_.

- A. 3, 9
- B. 9, 3
- C. 3, 4
- D. 9, 8

Look at the changes in gas price.

Month	January	February	March	April
Gas price (¢/L)	88.2	88.0	87.6	87.0

If the trend continues, the gas price in June will be \_\_\_\_\_ ¢/L.

- A. 85.2
- B. 86
- C. 86.2
- D. 86.8

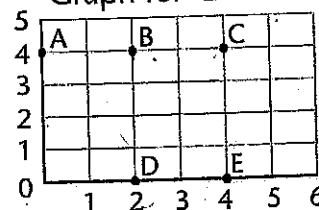
A number when doubled and then reduced by 2 gives 14. The number is \_\_\_\_\_.

- A. 4
- B. 6
- C. 8
- D. 9

Join the points A, C and D. What kind of triangles do you get?

- A. Right triangle
- B. Isosceles triangle
- C. Equilateral triangle
- D. Scalene triangle

Graph for ⑮ - ⑰.



Which points are horizontally 2 units from the origin?

- A. A and B
- B. B and C
- C. B and D
- D. C and E

What is the area of rectangle BCED?

- A. 8 square units
- B. 6 square units
- C. 4 square units
- D. 10 square units

# Final Test

Circle the letter which represents the best answer to each question.

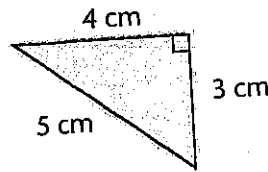
① The area of the triangle is \_\_\_\_\_  $\text{cm}^2$ .

A. 6

B. 12

C. 20

D. 60



② A rectangular pool is 5 m long, 2 m wide, and 1.5 m deep. If  $1 \text{ m}^3 = 1000 \text{ L}$ , how many L of water will fill up the pool?

A. 30 000 L

B. 8500 L

C. 41 000 L

D. 15 000 L

③ A bottle contains 500 vitamin-tablets of 325 mg each. The total mass of the tablets in the bottle is \_\_\_\_\_ g.

A. 162.5

B. 1625

C. 16 250

D. 162 500

④ Which of the following letters has rotational symmetry of order 2?

A. A

B. P

C. S

D. T

⑤ How many lines of symmetry does a parallelogram have?

A. 0

B. 1

C. 2

D. 3

⑥ A net with 5 faces can be used to make a \_\_\_\_\_.

A. cube

B. rectangular prism

C. square pyramid

D. triangular pyramid

⑦ A/An \_\_\_\_\_ triangle has 3 equal angles.

A. right

B. equilateral

C. isosceles

D. scalene

⑧ 20 identical books fill a shelf of width 0.5 m. How thick is each book?

A. 10 mm

B. 20 mm

C. 25 mm

D. 30 mm

⑨ Which of the following figures can tile a plane?

A. Circles

B. Regular pentagons

C. Regular hexagons

D. Regular octagons



Read the number puzzles and find the numbers using the guess-and-test method.

16 Increase this number by 7 and then double it. The result is 70.  
This number is .

17 The number is halved and then reduced by 20. The result is 30.  
This number is .

18 Divide this number by 2 and then reduce it by 3. The result is 11.  
This number is .

19 Add 25 to this number. Then multiply it by 3. The result is 120.  
This number is .

20 This number is 7 more than half of 30.  
This number is .

21 Half of this number is 7 more than 37.  
This number is .

Determine the value of the missing number in each of the following equations.

- 22  - 17 = 98
- 23 39 x  = 156
- 24 85 ÷  = 17
- 25 2 x  = 31 - 1
- 26 59 - 5 =  x 9
- 27 30 - 9 =  x 3
- 28 520 ÷  = 13 + 7
- 29 13 +  = 220 ÷ 11

- 24  + 23 = 170
- 25  x 13 = 117
- 27  ÷ 12 = 8
- 29 5 x  = 8 + 92



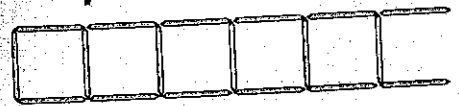
### Quick Tip

Do the part without missing terms first. Then 'guess and test' the missing numbers.



## MIND BOGGLER

Stan uses toothpicks to make the following pattern. Complete the table and the statement.



	1	2	3	4	5	6	7	8
Number of squares	4	7	10					

To make 10 squares, Stan needs \_\_\_\_\_ toothpicks.