

FINAL REVIEW

Choose the correct answer, and write its number in the parentheses.

1. Which of the following is the lowest common multiple of 9 and 12?

- (1) 3 (3) 72
(2) 36 (4) 108 ()

2. Calculate 45% of 9.

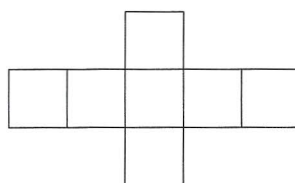
- (1) 0.405 (3) 4.05
(2) 0.45 (4) 4.5 ()

3. Calculate $3x + x^2$ when $x = 7$.

- (1) 21 (3) 49
(2) 35 (4) 70 ()

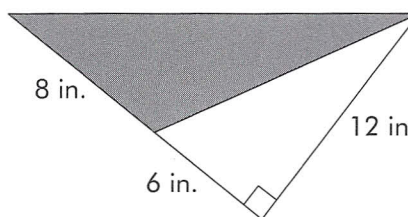
4. How many different ways can the figure shown below be divided into two equal parts?

- (1) 1
(2) 2
(3) 3
(4) 4 ()



5. What is the area of the shaded part?

- (1) 36 in.^2
(2) 48 in.^2
(3) 84 in.^2
(4) 120 in.^2 ()



6. The length of a ribbon is w cm. It is cut into two pieces. One piece is shorter than the other by 3 cm. Find the length of the longer piece in terms of w .

(1) $\left(\frac{w-3}{2} + 3\right)$ cm

(3) $\left(\frac{w}{2} - 3\right)$ cm

(2) $\left(\frac{w+3}{2} - 3\right)$ cm

(4) $\left(\frac{w}{2} + 3\right)$ cm

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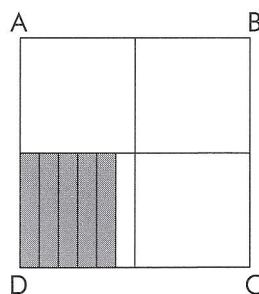
7. ABCD is a square. 5 out of 6 identical rectangles in the smaller square have been shaded. How many more similar rectangles must be shaded so that $\frac{3}{8}$ of square ABCD is shaded?

(1) 3

(2) 4

(3) 9

(4) 24



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8. Jamal was given 0.25 L of cough medicine. He took the cough medicine 4 times a day. If he took 15 mL of cough medicine each time, how much cough medicine did he have left after 3 days?

(1) 60 mL

(3) 180 mL

(2) 70 mL

(4) 250 mL

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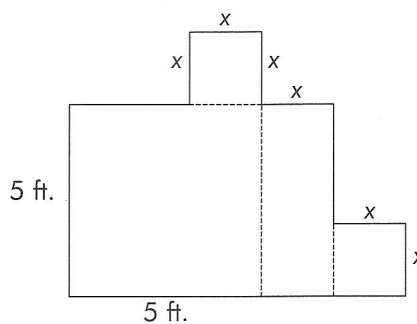
9. The figure below is made up of rectangle and squares. Find the perimeter of the figure in terms of x .

(1) $(10 + 3x)$ ft.

(2) $(15 + 6x)$ ft.

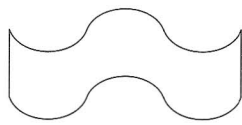
(3) $(15 + 8x)$ ft.

(4) $(20 + 6x)$ ft.



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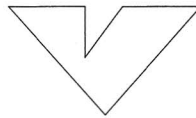
10. Which two shapes cannot be drawn as a tessellation?



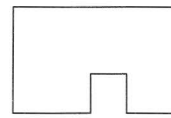
A



B



C



D

(1) A and B

(3) C and D

(2) B and C

(4) D and A

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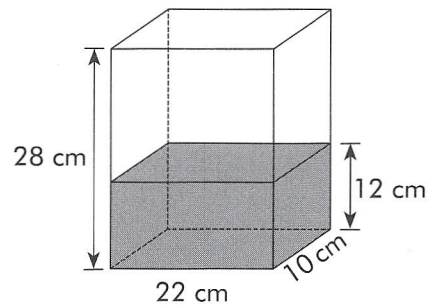
11. How much more water is needed to fill completely the tank below?

(1) 2,640 cm³

(2) 3,360 cm³

(3) 3,520 cm³

(4) 6,160 cm³



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12. The circumference of a semicircle is 110 in. What is its radius? (Use $\pi = \frac{22}{7}$)

(1) 17.5 in.

(3) 35 in.

(2) 27.5 in.

(4) 70 in.

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13. A tank had a base area of 26 in. by 19 in. When the water level increased by 8 in., the volume of water in the tank became 8,892 in.³. What was the original height of the water in the tank?

(1) 10 in.

(3) 16 in.

(2) 14 in.

(4) 18 in.

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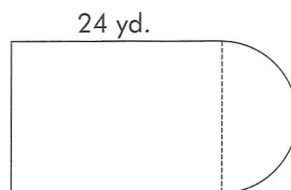
14. In the figure shown below, the area of the rectangle is 480 yd.². What is the perimeter of the figure? (Use $\pi = 3.14$)

(1) 31.4 yd.

(2) 68 yd.

(3) 95.4 yd.

(4) 99.4 yd.



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15. Calculate $45 \times (2 + 7) - 105 \div 5$.

(1) 60

(3) 300

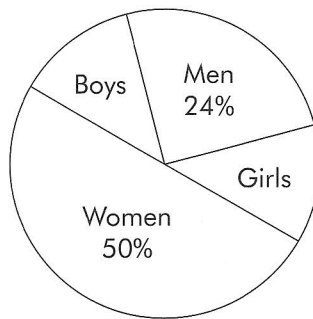
(2) 76

(4) 384

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Write your answers on the lines.

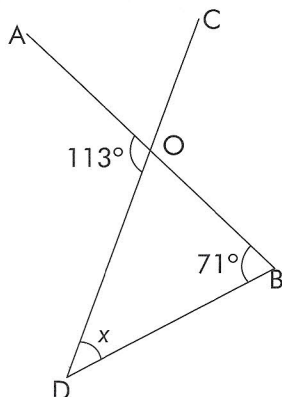
The pie chart below shows the number of people attending a concert. Study it carefully, and answer questions 16 and 17.



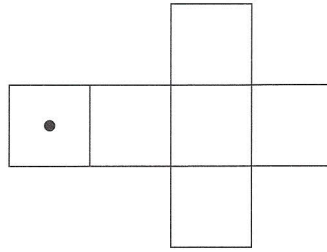
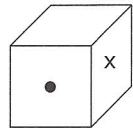
16. There were as many boys as girls at the concert. What percentage of the audience were girls?

17. If there were 264 men at the concert, how many people attended the concert?

18. In the figure below, AOB and COD are straight lines. Find $\angle x$.



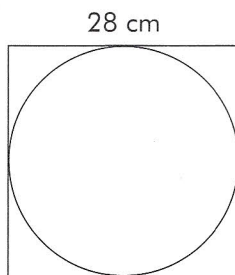
23. The figure below shows a cube and its net. Mark on the net with a cross where x is supposed to be.



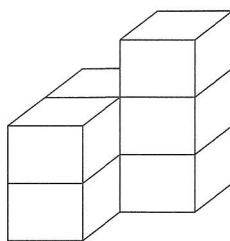
24. Cedric has an equal number of dimes and nickels with a total value of \$10.50. How many coins does he have in all?

25. What is the maximum number of 2-in. cubes that can be put into a rectangular box measuring 24 in. by 20 in. by 36 in.?

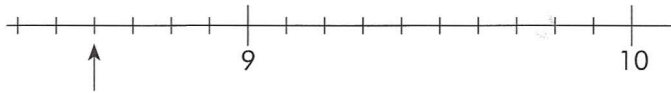
26. In the figure below, a circle is enclosed in a square with a side of 28 cm. Find the ratio of the area of the circle to that of the square. (Use $\pi = \frac{22}{7}$)



27. Belinda made a 4 cm by 6 cm by 6 cm rectangular prism using 2-cm cubes. She removed some cubes to make the solid as shown below. How many cubes did she remove?

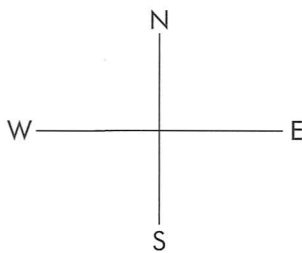


28. What is the correct value indicated by the arrow?



29. Pam left her office at 5:45 P.M. and reached home at 7:15 P.M. How long was her trip home?

30. Peter faces northwest after turning 225° clockwise. Which direction was he facing at first?

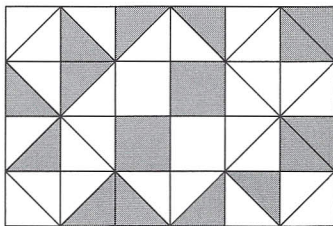


 Write your answers on the lines. You may use a calculator.

31. How many tenths are there in 309.4?

32. A rope $20\frac{3}{4}$ ft. long is cut into 6 equal pieces. What is the length of each piece? Write your answer as a decimal to the nearest tenth.

33. What percentage of the figure below is shaded?



34. Multiply 23 tens by 51 hundredths. _____

35. Arrange the following numbers in ascending order.

$$\frac{23}{5}, 6.4, 0.46, \frac{16}{25}$$



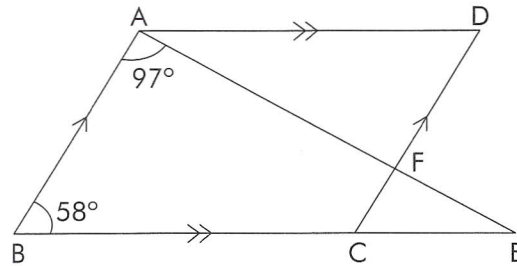
Solve the following story problems. Show your work in the space below. You may use a calculator.

36. The total mass of a dozen apples is 3.187 kg. The total mass of 15 apples is 4 kg. Find the average mass of 3 apples. Write your answer in grams.

37. 24 trees along a highway are planted at an equal distance from each other. If the distance between the first tree and the last tree is 74.52 yd., what is the distance between the fifth tree and the ninth tree?

38. The figure below is not drawn to scale. ABCD is a parallelogram and ABE is a triangle.

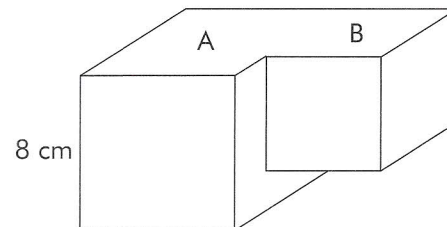
- (a) Find $\angle AEB$.
(b) Find $\angle AFD$.



39. A hamburger costs $\$(5x + 3)$ and a drink costs $\$2x$ less. Andre and his two brothers used an equal amount of money to buy three hamburgers and two drinks. How much did each boy have to pay? Write your answer in terms of x .
40. Patrick drove from Town X to Town Y. He completed $\frac{3}{5}$ of the trip in two hours. The average rate of speed for the two hours was 45 mph. He completed the rest of the trip in another hour.
- (a) Find the total distance between Town X and Town Y.
 - (b) Find Patrick's average rate of speed for the whole trip.

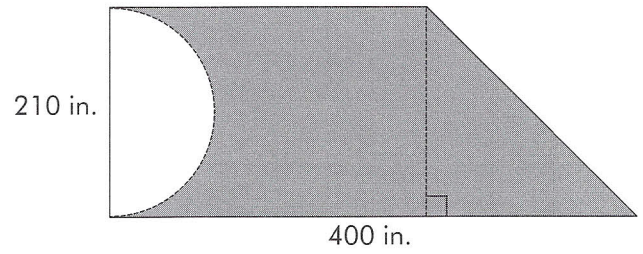
41. 6 bricks measuring 12 cm by 10 cm by 8 cm each were placed in an empty tank. Water was then poured into the tank until it reached a height of 20 cm. The ratio of the volume of water in the tank to the volume of the 6 bricks was 9:8. If the base of the tank was square in shape, find its length.

42. The solid below is formed by two cubes. If the total volume of the solid is 728 cm^3 , what is the difference between the base area of cube A and the base area of cube B?



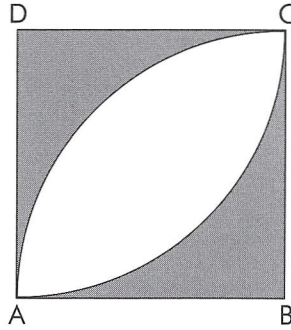
43. The ratio of red beads to blue beads in a box was 7:4. When 81 red beads were used to make a necklace, the ratio of blue beads to red beads became 10:13.
- (a) How many beads were there at first?
 - (b) How many more red beads than blue beads were there in the end?

45. The figure below is made up of a triangle, and a semicircle enclosed in a rectangle. The width of the rectangle is 210 in. Its length is $\frac{1}{3}$ longer than its width. Find the area of the shaded portion.
(Use $\pi = \frac{22}{7}$)



46. ABCD is a square of side 35 cm. Find the area of the shaded part.

(Use $\pi = \frac{22}{7}$)



47. Gina and Barry shared \$980. Gina received 2.5 times as much money as Barry. Then, Gina's dad gave her some money, and Barry got some money from his grandmother. For every \$7 Barry had, his grandmother gave him \$20. The amount of money that Gina had in the end was $\frac{7}{9}$ of the amount of money Barry had in the end. Write the amount of money that Gina received from her father as a fraction of the amount of money Barry received from his grandmother.

48. The figure below is made up of 3 semicircles. The biggest semicircle covers parts of the two smaller semicircles. Find the shaded area of the figure.
(Use $\pi = 3.14$)

