

Examrace**SAT Questions and Answers Model Paper-7 Important Questions Section B**

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Section - B**Time - 25 minutes****20 Questions**

1. When 10^2 is added to 57,860 . The value of when of which digit in the number 57,860 will be increased?

(A) 0

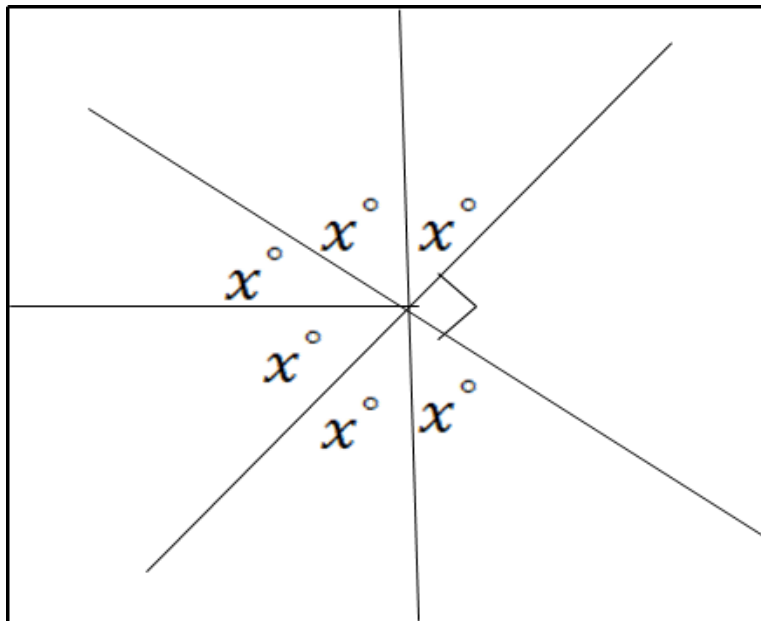
(B) 5

(C) 6

(D) 7

(E) 8

2. In the figure below, what is the value of x ?

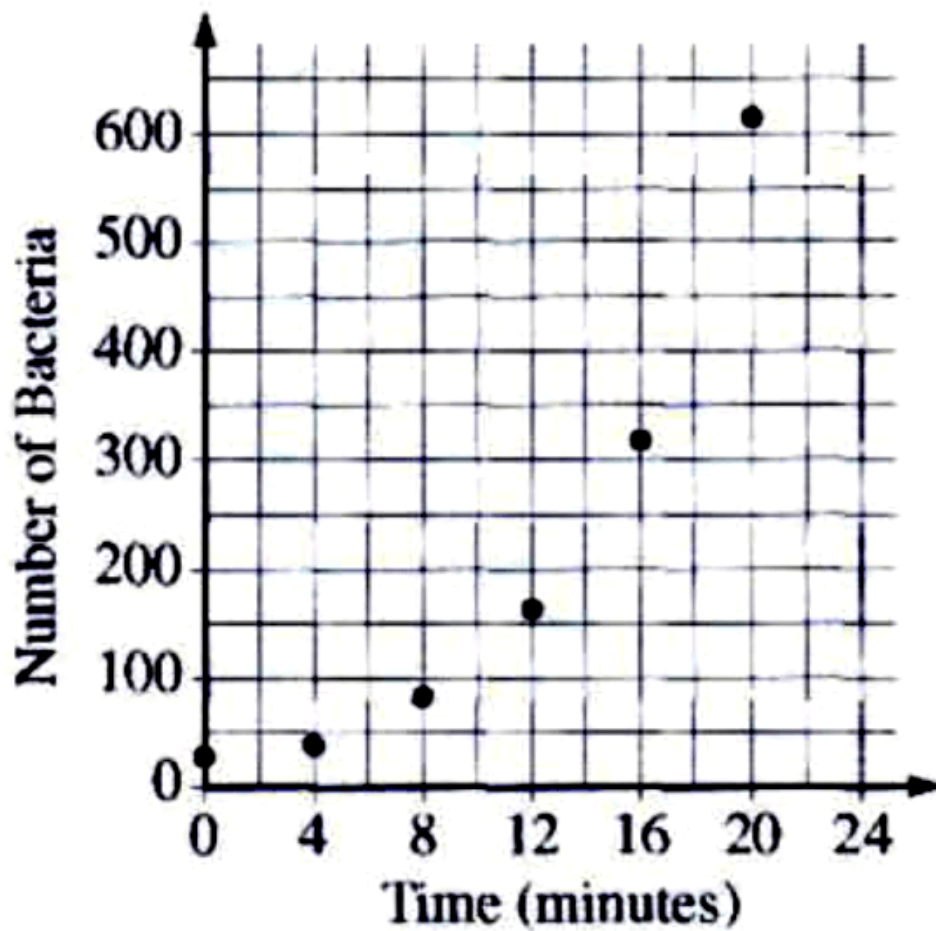


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- (A) 18
- (B) 24
- (C) 36
- (D) 45
- (E) 50

3. The number of bacteria in a dish at various times from the start of an experiment is shown in the graph, which of the following is closest to the number of minutes from the start of the experiment to the time when there were 450 bacteria in the dish?

GROWTH OF A POPULATION OF BACTERIA



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- (A) 6
- (B) 10
- (C) 14

(D) 18

(E) 22

4. If the sum of the areas of two congruent squares is 50, what is the length of a side of each square?

(A) 2

(B) 4

(C) 5

(D) 10

(E) 25

5. On a certain map, 2 inches represent 25 miles. How many inches on the map represent 200 miles?

(A) 4

(B) 8

(C) 12

(D) 16

(E) 20

6. If $(y - x)(x - 2y) = k$ which of the following is always equal to $(y - x)(2x - 4y)$?

(A) $2k$

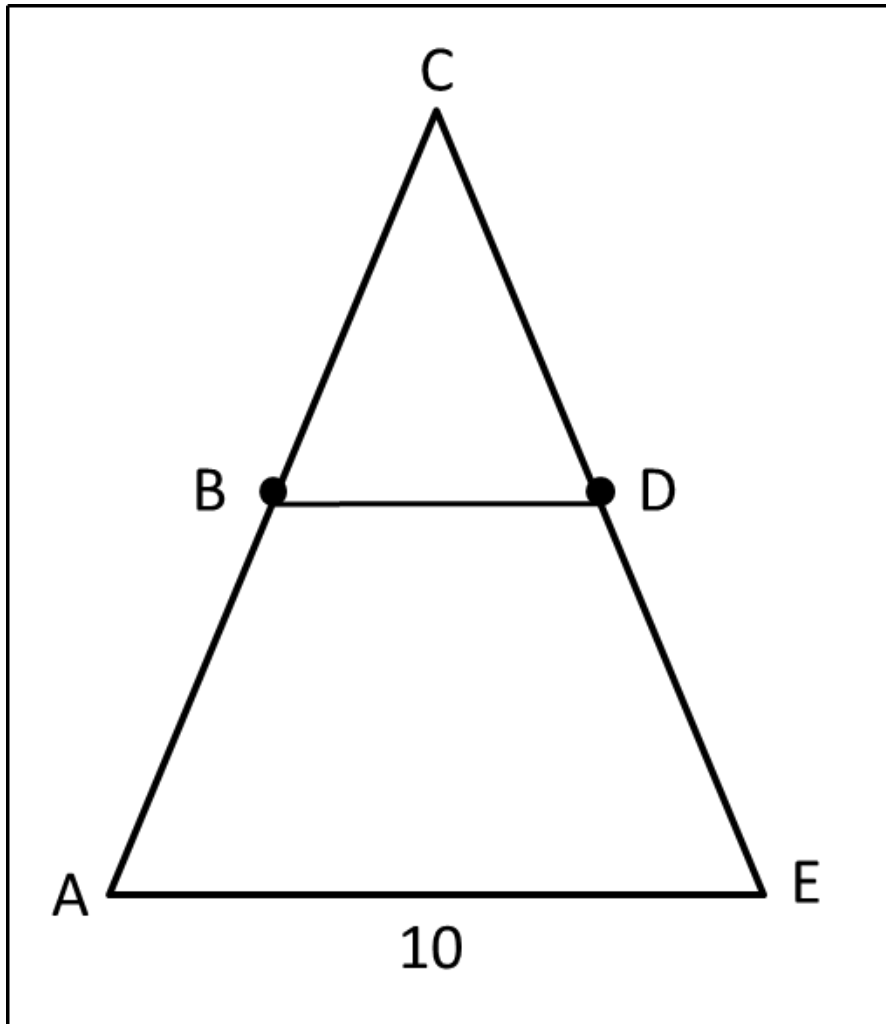
(B) $3k$

(C) $4k$

(D) $6k$

(E) $8k$

7. In $\triangle ACE$ below, B is the midpoint of \overline{AC} and D is the midpoint of \overline{CE} . If $AC = 8$ and $CE = 12$, What is the perimeter of $\triangle BCD$?



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Note: Figure not drawn scale.

- (A) 13
- (B) 14
- (C) 15
- (D) 16
- (E) 17

8. If it takes n complete class periods to show a video and each class period is 45 minutes long, which of the following represents the length of the video, in minutes?

- (A) $\frac{n}{45}$

(B) $\frac{3n}{4}$

(C) $\frac{4n}{3}$

(D) $\frac{45}{n}$

(E) $45n$

9. If j and k are integers and $0 < j < k < 6$, which of the following is a possible value of jk ?

(A) 9

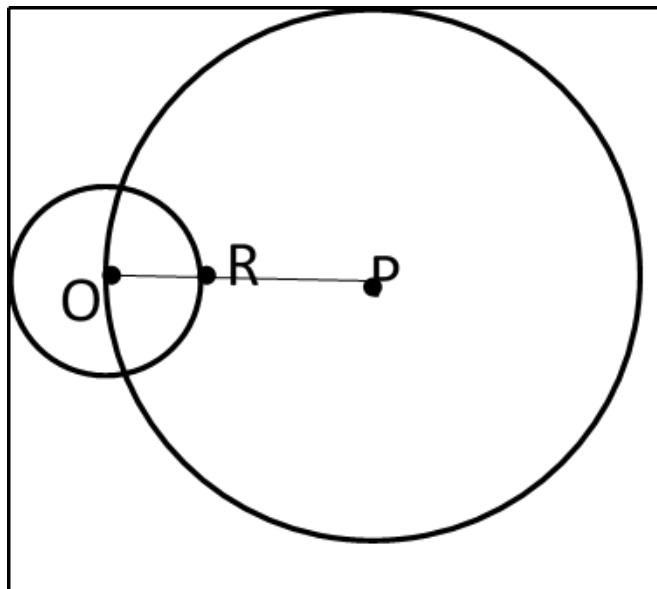
(B) 14

(C) 16

(D) 18

(E) 20

10. In the figure below, point R lies on segment \overline{OP} . The area of the circle with center O is 4π , and the area of the circle with center P is 100π . What is the length of segment \overline{RP} ?



Note: Figure not drawn to scale.

- (A) 10
- (B) 8
- (C) 6
- (D) 4
- (E) 2

11. The table below shows the average (arithmetic mean) time a student on homework per school week during each of 4 years of high school. In total, how many hours did the student spend on homework during 4 years of high school? (Assume that 1 school week contains 5 days and 1 school year contains 180 days.)

Average Time <i>Per School Week</i> <i>Spent On Homework</i>	
Grade	Number
9	5
10	$6\frac{3}{4}$
11	$9\frac{1}{2}$
12	$8\frac{3}{4}$
<i>Average Time Per School Week Spent on Homework</i>	

- (A) 322
- (B) 1,008
- (C) 1,080
- (D) 5,040
- (E) 5,400

12. One number is 8 more than twice another number. If the sum of the two numbers is 23, what is the greater of the two numbers?

- (A) 10
- (B) 12
- (C) 15
- (D) 18
- (E) 31

13. For a certain product, the number N of thousands of units sold each month is given by the function below, where x is the price per unit, in dollars, and $0 < x \leq 15$. The price per unit was \$ 14 in July and

\$ 10 in August. How does the number of units sold in July compare to the number of units sold in August?

$$N(x) = -2x + 30$$

- (A) 4,000 fewer units were sold in July
- (B) 8,000 fewer units were sold in July.
- (C) 20,000 fewer units were sold in July.
- (D) 12,000 more units were sold in July.
- (E) 16,000 more units were sold in July.

14. The volume of a right circular cylinder is 64π cubic inches. If the height and radius of the cylinder are equal, what is the height of the cylinder?

- (A) 4 inches
- (B) 6 inches
- (C) 8 inches
- (D) 16 inches
- (E) 32 inches

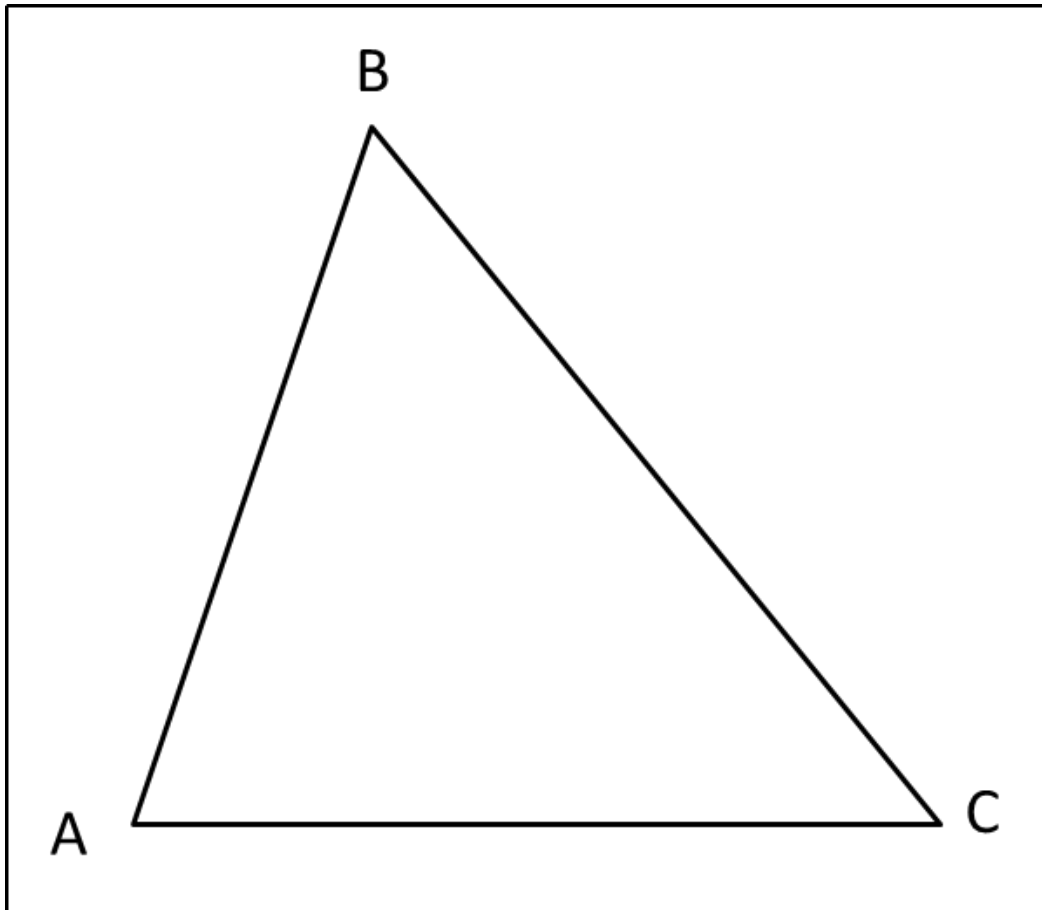
15. If the average (arithmetic mean) of x , y , and 24 is 10, what is the average of x and y ?

- (A) 2
- (B) 3
- (C) 6
- (D) 7
- (E) It cannot be determined from the information given.

16. In a survey, 78 people were asked about two television programs, X and Y. Of the people surveyed, 56 watch program X, 42 watch program Y, and 7 watch neither program. How of the people surveyed watch both programs?

- (A) 15
- (B) 20
- (C) 27
- (D) 29
- (E) 36

17. In the triangle below, $AB = AC = 5$ and $BC = 6$. What is the area of the triangle?



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- (A) 4
- (B) 6
- (C) 9
- (D) 12
- (E) 16

18. Positive integers x , y , and z satisfy the equations $x^{-y} = \frac{1}{8}$ and $y^z = 243$. What is the value of $x + z$?

(A) 5

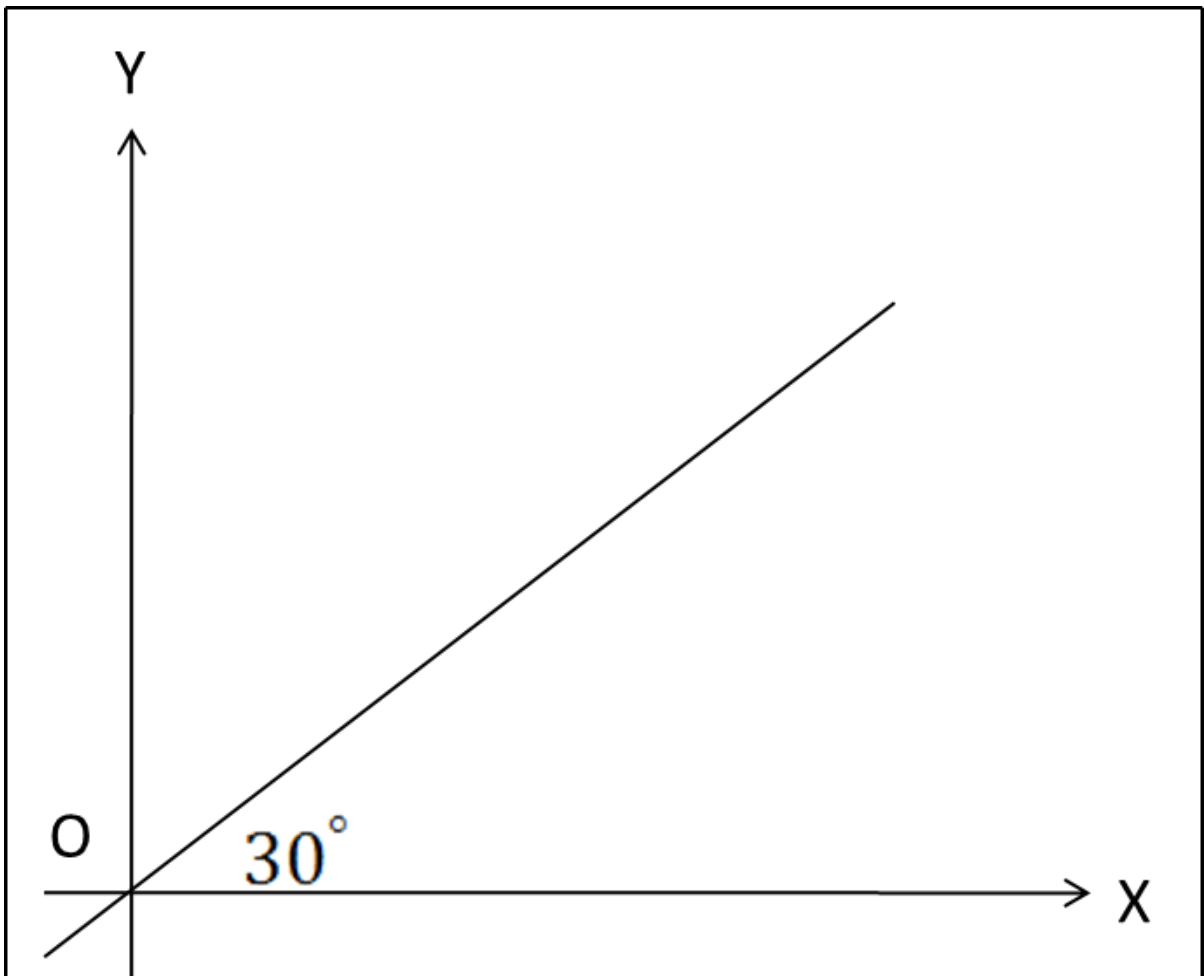
(B) 7

(C) 9

(D) 11

(E) 13

19. In the figure below, what is the equation of line l ?



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(A) $y = \frac{x}{2}$

(B) $y = \frac{x}{\sqrt{2}}$

(C) $y = \frac{x}{\sqrt{3}}$

(D) $y = \sqrt{2}x$

(E) $y = \sqrt{3}x$

20. If $a > 0$, $x^2 + y^2 = a$, and $xy = a - 10$, what is $(x + y)^2$ in terms of a ?

(A) $a - 20$

(B) $2a - 20$

(C) $2a - 10$

(D) $3a - 20$

(E) $3a - 10$

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