

MATHEMATICS GRADE 8 EXAM 2017 E.C

Number of Items: 40

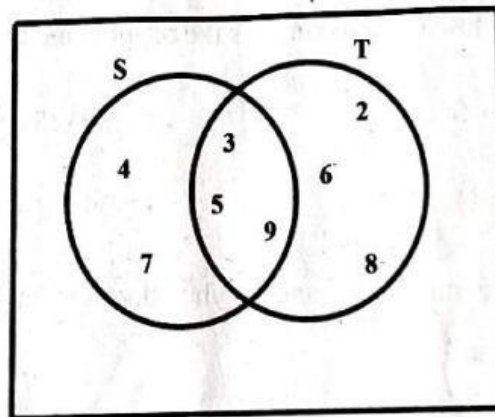
Time Allowed 1:00 hour

Instruction: Read each question and choose carefully. Then mark your choice on separate answer sheet.

1. Which of the following is true about two sets S and T having equal number of elements?

- A. Set S is equal to set T.
- B. Set S is equivalent to set T.
- C. Set S a subset of set T.
- D. Set S is a proper subset of set T.

2. Consider the following Venn-diagram of two sets S and T.



Based on the Venn-diagram, which of the following is the intersection of the two sets S and T?

- A. {3, 5, 9}
- B. {2, 4, 6, 7, 8}
- C. {2, 3, 5, 6, 8, 9}
- D. {2, 3, 4, 5, 6, 7, 8, 9}

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3. Which of the following is true about the relation between whole and natural numbers?

- A. All whole numbers are natural numbers.
- B. All natural numbers are not whole numbers.
- C. A collection of natural numbers and 0 is whole number.
- D. A collection of natural numbers without 0 is whole number.

4. What is a set of numbers consisting of natural numbers, zero, and negative natural numbers?

- A. Whole numbers
- B. Positive integers
- C. Natural numbers
- D. Integers

5. What is the product of -9 and 7 ?

- A. 63
- B. -16
- C. -63
- D. 16

6. Which of the following divisions has the result equal to -18.25 ?

- A. $(-88) \div 5$
- B. $73 \div (-4)$
- C. $(-125) \div 8$
- D. $96 \div (-6)$

7. Given two natural numbers a and b , when does the ratio $a:b$ is said to be in the simplest form?

- A. When the number b is a factor of a .
- B. When the common factors of a and b are more than 1.
- C. When the number a is a factor of the number b .
- D. When the common factor of a and b is only 1.

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14. What is the circumference of a circle of radius 4 cm?

A. 4π cm

C. 32π cm

B. 16π cm

D. 8π cm

15. A football field is rectangular with a length of 100 meters and a width of 50 meters. What is the area of the field?

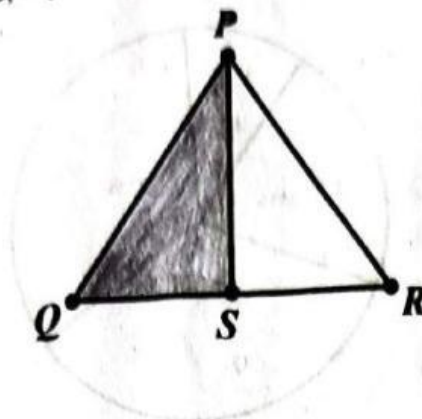
A. 300 m^2

C. 5000 m^2

B. 3000 m^2

D. 500 m^2

16. In the following figure, $PQ = PR$ and S is the midpoint of $\overline{QR}$.



Which of the following is true about the triangles $\triangle PQS$ and $\triangle PRS$?

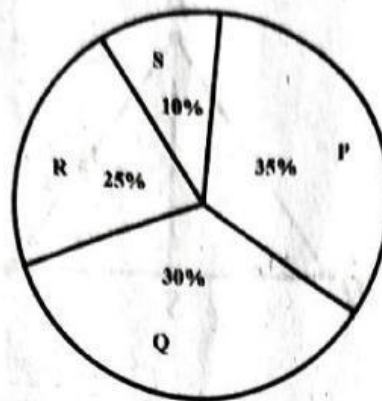
- A. $QS = SR$
- B. $QS = QR$
- C. $QS = PS$
- D. $QS = PR$

17. A man has two rectangular gardens of equal lengths and equal widths in two different places. Then which of the following is true about the two gardens?

- A. They are congruent because they are both rectangular.
B. They are congruent because their corresponding sides are equal.
C. They are not congruent because they are in different places.
D. They are not congruent because their corresponding sides are equal.

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18. The pie chart shows the sports that 120 students participated in: Basketball, Soccer, Tennis, and Swimming.



P = Soccer
Q = Swimming
R = Basketball
S = Tennis

How many students played Soccer?

- A. 30
B. 58
C. 36
D. 42
19. What is the mean of the data: 2, 12, 9, 7, 8, 9, 4, 5?
- A. 7
B. 7.5
C. 9
D. 10
20. Which of the following is equal to $\left| -\frac{5}{3} \right|$?

A. $-\frac{5}{3}$

B. $\frac{3}{5}$

C. $\frac{5}{3}$

D. $-\frac{3}{5}$

2

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2

21. Which of the following gives the ascending order of the rational numbers

$$\frac{2}{3}, \frac{1}{2}, \frac{6}{5}, \frac{8}{7} \quad ?$$

A. $\frac{2}{3} < \frac{1}{2} < \frac{6}{5} < \frac{8}{7}$

C. $\frac{2}{3} < \frac{1}{2} < \frac{8}{7} < \frac{6}{5}$

B. $\frac{1}{2} < \frac{2}{3} < \frac{8}{7} < \frac{6}{5}$

D. $\frac{1}{2} < \frac{2}{3} < \frac{6}{5} < \frac{8}{7}$

22. What is the value of $3\frac{2}{5} - \frac{11}{6}$?

A. $\frac{30}{47}$

C. $-\frac{30}{19}$

B. $-\frac{19}{30}$

D. $\frac{47}{30}$

23. A mother gave two-fifths of a portion of a pizza to her daughter.

What portion of the pizza is left for her?

A. $\frac{2}{3}$

C. $\frac{3}{5}$

B. $\frac{2}{5}$

D. $\frac{1}{3}$

24. Table of values of $y = x^2$ is given below.

	9	9.06	9.12	9.191	9.242	9.302
	9.61	9.672	9.734	9.797	9.86	9.922
	10.24	10.3	10.37	10.43	10.5	10.56
	10.89	10.96	11.02	11.09	11.16	11.22

What is the value of $(3.13)^2$?

A. 9.797

C. 9.61

B. 10.96

D. 11.09

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What is the value of $(3.13)^2$?

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25. What is the value of $\sqrt{0.25}$?

A. 5

C. 0.5

B. 0.25

D. 25

26. What is the value of x^3 if $x = -0.3$?

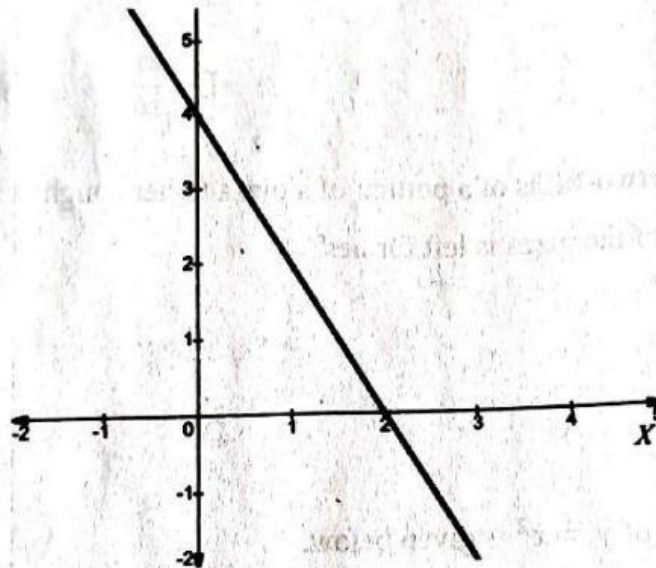
A. 0.27

C. -0.27

B. -0.027

D. 0.027

27. Given the graph of a linear equation below.



Which one of the following represents the equation of the graph?

A. $y = -2x + 4$

C. $y = 2x + 4$

B. $y = -2x - 4$

D. $y = 2x - 4$

28. What is the solution of the inequality $\frac{1}{2}x + 3 > \frac{3}{2}$ in the domain of $\mathbb{Q}$?

A. $x < 3$

C. $x > 3$

B. $x < -3$

D. $x > -3$

29. In a shop there are 540 apples and mangoes. Two times the number of apples is 120 more than the number of mangoes. What is the number of mangoes?

A. 420

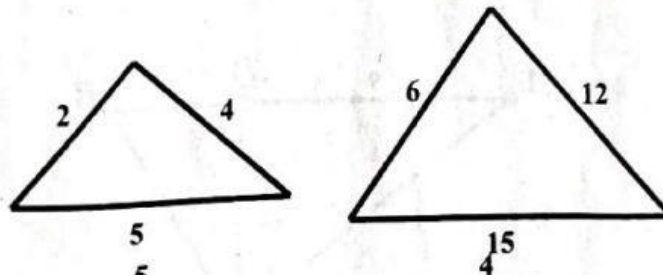
C. 320

B. 220

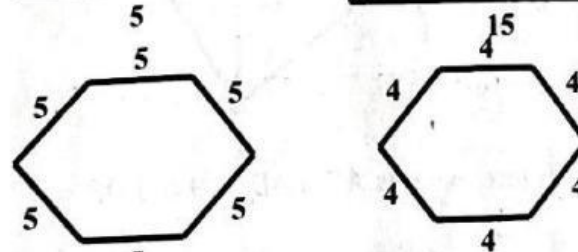
D. 210

30. Which of the following pairs of plane figures are similar to each other?

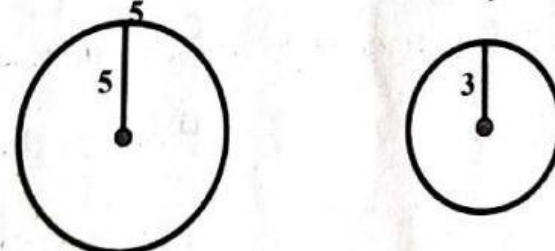
A.



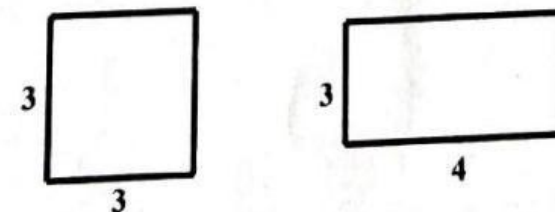
B.



C.



D.



31. The ratio of the corresponding sides of two similar triangles is 2. Then which of the following is true about the areas A_1 and A_2 of the triangles?

A. $A_1 = 2A_2$

C. $A_1 = A_2$

B. $A_1 = 4A_2$

D. $A_1 = 8A_2$

32. What is the sum of the degree measures of the interior angles of a triangle?

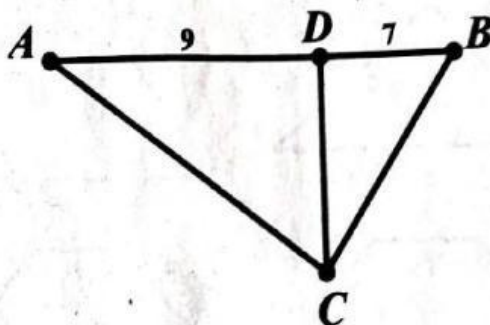
A. 90°

C. 360°

B. 540°

D. 180°

33. In a right-angled triangle $\triangle ABC$ below, $\overline{CD}$ is altitude to the hypotenuse $\overline{AB}$.



According to the figure, what is AC if $AD = 9$ and $DB = 7$?

A. 12

C. 144

B. $4\sqrt{7}$

D. 112

34. Which of the following is true about an arc $\widehat{XYZ}$ intercepted by a central angle $\angle XOY$?

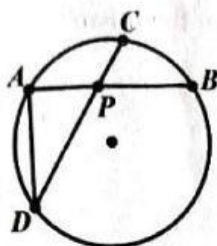
A. $m(\angle XOY) < m(\widehat{XYZ})$

C. $m(\angle XOY) \neq m(\widehat{XYZ})$

B. $m(\angle XOY) > m(\widehat{XYZ})$

D. $m(\angle XOY) = m(\widehat{XYZ})$

35. In the figure below, $m(\widehat{AD}) = 60^\circ$ and $m(\widehat{BC}) = 40^\circ$.



What is the degree measure of $\angle APC$?

A. 70°

C. 160°

B. 130°

D. 50°

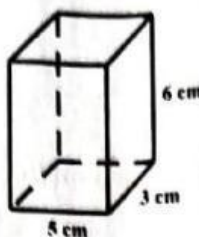
36. What is the vertical distance from the base to the vertex of a circular cone?

A. Lateral edge

C. Base edge

B. Radius

D. Altitude



- A. $\frac{1}{15}$
- B. $\frac{14}{15}$
- C. $\frac{3}{4}$
- D. $\frac{1}{4}$