Vidya's Safal

MATHEMATICS

Assessment Paper-4

Name _____

Class & Sec. _____

Roll No. _____

STEM 1.

Some whole numbers can be arranged as squares. Out of following given options, which number could not be represented in the form of the square of a whole number?

A. 2 ○ B. 4 ○

C. 9 ○ D. 16 ○

STEM 2.

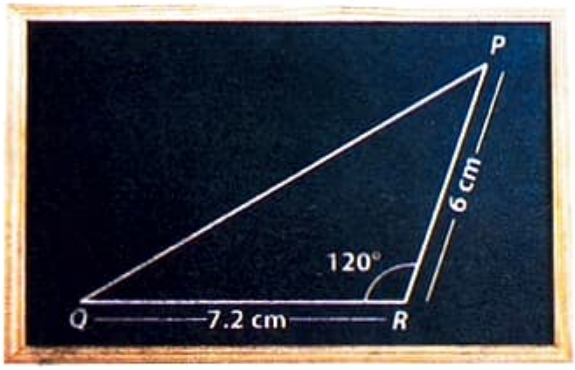
Nancy needs 5 lemons to make a glass of lemonade. If Nancy has 250 lemons, how many glasses of lemonade can she make?

A. 25 ○ B. 75 ○

C. 50 ○ D. 100 ○

STEM 3.

Teacher made a triangle on board and asked Ramesh, "Which type of triangle is formed on the board?"



Ramesh answered— It is an obtuse angled triangle. Is Ramesh right?

A. Yes, because it is an obtuse angled triangle. ○

B. No, because it is an acute angled triangle. ○

C. No, because it is a right angled triangle. ○

D. No, because it is an isosceles triangle. ○

STEM 4.

Aarav's mother draws the given figure in his notebook. She asks Aarav to identify the different angles present in the given figure :

What should Aarav pick as his option to answer the question correctly?

A. Acute angles = 1; Obtuse angles = 3; Right angles = 3; and Reflex angles = 5

B. Acute angles = 2; Obtuse angles = 3; Right angles = 3; and Reflex angles = 4

C. Acute angles = 2; Obtuse angles = 1; Right angles = 4; and Reflex angles = 4

D. Acute angles = 3; Obtuse angles = 2; Right angles = 2; and Reflex angles = 5

STEM 5.

Consider the given figures

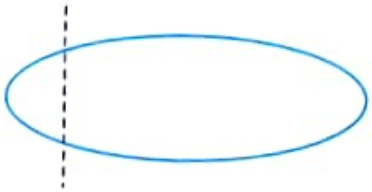


Figure 1

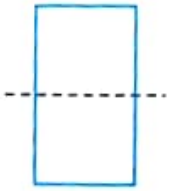


Figure 2

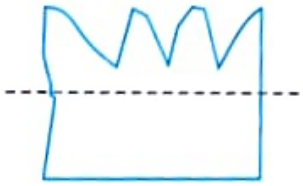


Figure 3

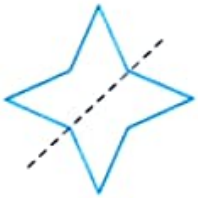


Figure 4

In which of these figures, the dotted line shows the line of symmetry?

A. Figure 1 and Figure 2

B. Figure 2 and Figure 3

C. Figure 1 and Figure 3

D. Figure 2 and Figure 4

STEM 6.

If it is given that $\sqrt{5625} = 75$, then what is the value of $\sqrt{0.5625} \times \sqrt{56.25}$?

A. 82.5

B. 5.625

C. 8.25

D. 56.25

STEM 7.

For a non- zero integer 'a', which of the following equals to 0?

A. $a \div 0$

B. $0 \div a$

C. $a \div 1$

D. $1 \div a$

STEM 8.

Each side of a regular hexagon is 5.5 cm long. The perimeter of the hexagon is :

A. 22 cm B. 33 cm C. 44 cm D. 11 cm

STEM 9.

Ramesh need to find out the correct statement out of the following. Please help him to do so.

A. $\frac{a-b}{2}$ is a rational number between a and b.

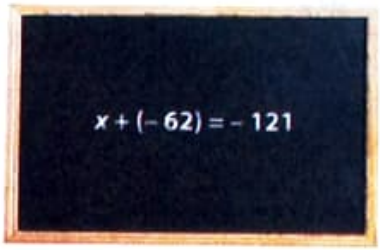
B. $\frac{a+b}{2}$ is a rational number between a and b.

C. $\frac{a \times b}{2}$ is a rational number between a and b.

D. $\frac{a \div b}{2}$ is a rational number between a and b.

STEM 10.

Mrs. Sharma, wrote a question on the board :



She asked Diljeet to find the value of x. What is the value of x?

A. –59 ○ B. 57 ○

C. –63 ○ D. 62 ○

STEM 11.

The equation $-2(1-x) + 3[2x(-3)] - x = 3$ is satisfied by :

A. $x = 1$ or $x = 0$ ○ B. $x = 2$ only ○

C. $x = -\frac{5}{17}$ only ○ D. $x = 2$ or $x = 3$ ○

STEM 12.

A number is written in the following expanded form :

$$5 \times 10^5 + 4 \times 10^3 + 3 \times 10^2 + 2 \times 10^0$$

What is that number?

A. 5432 ○ B. 504302 ○

C. 54302 ○ D. 50432 ○

STEM 13.

Shweta is learning the concept of cube-roots. Meanwhile, she got stuck in a problem.

$$\sqrt[3]{64} + \sqrt[3]{0.008} + \sqrt[3]{0.064}$$

Help her to get the solution.

A. 424 ○ B. 4.24 ○

C. 4.024 ○ D. 4.6 ○

STEM 14.

Miss. Kavita was teaching the concept of square roots to the students. She draw a number line on the blackboard.

She asked the students, which number is at the location of $\sqrt{25}$ on the number line?

A. L ○ B. N ○

C. M ○ D. K ○

STEM 15.

Rudra was called on board and asked to see the given formula.

$$A = P\left(1 + \frac{R}{200}\right)^{2n}$$

Then he was asked, what he can deduce from the above formula. What should be his answer?

A. Interest is compounded monthly.

B. Interest is compounded quarterly.

C. Interest is compounded half-yearly.

D. Interest is compounded annually.

STEM 16.

Sakshi wrote few formulae about the exterior angle of a regular polygon with n-sides.

(a) Each exterior angle $= \frac{360°}{n}$

(b) Exterior angle = 180° – Interior angle

(c) $n = \frac{360°}{\text{Exterior angle}}$

(d) Each exterior angle $= \frac{(n-2) \times 180°}{n}$

Which among the above is/are correct?

A. (a), (b)

B. (a), (c)

C. (a), (c), (d)

D. (a), (b), (c)

STEM 17.

Which of these expressions can be formed from the given statement?

"Three times the square of x is subtracted from four times y".

A. $2 + x - 3 - y^2$ B. $4x - 3y^2$ C. $3x^2 - 4y$ D. $4y - 3x^2$

STEM 18.

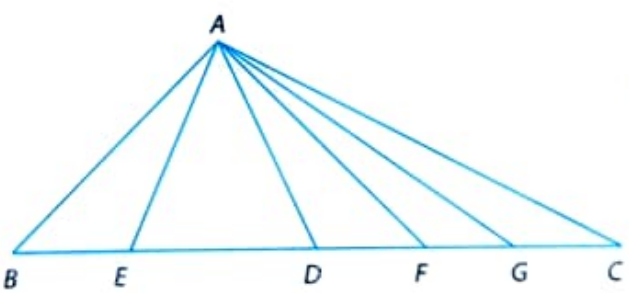
If the mid point of side BC of ΔABC is D, then identify the median of ΔABC and choose the correct option.

A. Line AE

B. Line AD

C. Line AF

D. Line AG



STEM 19.

Consider the figures shown.

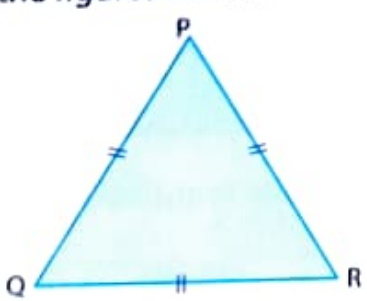


Figure 1

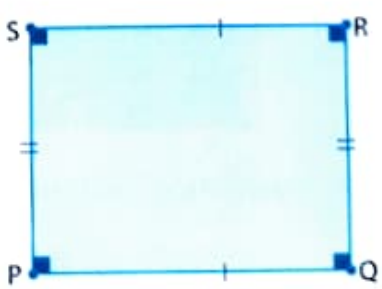


Figure 2

Sohan made the following conclusions after observing the figures.

Conclusion I : Figure 1 is an equilateral triangle. It has all three sides and angles equal. This makes it a symmetrical polygon. An equilateral triangle can be divided into identical parts with the help of three lines of symmetry passing through its centre.

Conclusion II : Figure 2 is a rectangle. It is divided into symmetrical parts with the help of two lines.

Which of the above conclusion(s) is/are correct?

A. Only Conclusion I ○ B. Only Conclusion II ○

C. Both Conclusion I and Conclusion II ○ D. Neither Conclusion I nor Conclusion II ○

STEM 20.

Match the Column I with Column II and select the correct one out of given codes.

Column I		Column II	
P.	Acute angle	(i)	an angle which is of 90° exactly.
Q.	Right angle	(ii)	an angle which is of 360° exactly.
R.	Complete angle	(iii)	an angle which is less than 90°.
S.	Obtuse angle	(iv)	an angle that is greater than 90° and less than 180°.

A. P-(i), Q-(ii), R-(iii), S-(iv) ○ B. P-(ii), Q-(i), R-(iv), S-(iii) ○

C. P-(iii), Q-(i), R-(ii), S-(iv) ○ D. P-(iv), Q-(i), R-(ii), S-(iii) ○

STEM 21.

The area of equilateral triangle of side 'a' is :

A. $\frac{3}{2}a^2$ sq. units ○ B. $\frac{\sqrt{3}}{4}a^2$ sq. units ○

C. $\frac{\sqrt{3}}{2}a^2$ sq. units ○ D. $\frac{3}{4}a^2$ sq. units ○

STEM 22.

Identify from the given equations, the one in which y is neither directly nor inversely proportional to x.

A. $4x - y = 7$ ○ B. $2xy^{-1} = 2$ ○

C. $4xy = 3$ ○ D. $x^{-1}y = 10$ ○

STEM 23.

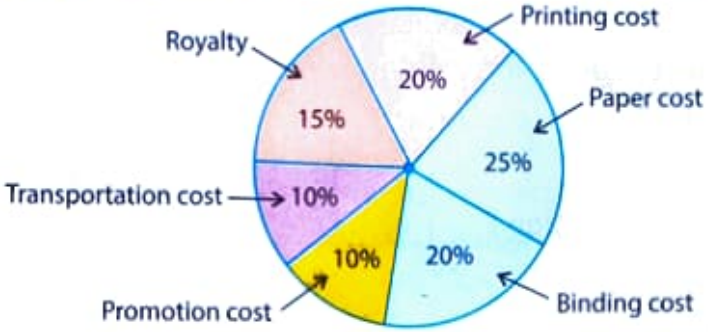
Divide $(y^4 - x^2y^2 - 74y^2)$ by y^2.

A. $y^2 - x^2 - 74$ ○ B. $y^2 + x^2 + 74$ ○

C. $-y^2 - x^2 - 74$ ○ D. $y^2 + x^2 - 74$ ○

STEM 24.

The following pie-chart shows the percentage distribution of the expenditure incurred in publishing a book. Study the pie-chart and answer the question given below :



Various expenditures (in percentage) incurred in publishing a book.

What is the central angle of the sector corresponding to the expenditure incurred on royalty?

A. 15° ○ B. 24° ○

C. 54° ○ D. 48° ○

STEM 25.

In a town, an ice-cream parlour has displayed an ice-cream sculpture of height 360 cm. The parlour claims that the ice-cream and the sculptures are in the ratio 1 : 30. What is the height of the ice-cream served?

A. 30 cm ○

B. 24 cm ○

C. 15 cm ○

D. 12 cm ○

STEM 26.

If the rate is compounded annually, a sum of money becomes eight times in three years. How long will it take for the same amount compounded annually at the same rate to become sixteen times?

A. 1 years ○ B. 2 years ○

C. 3.5 years ○ D. 4 years ○

STEM 27.

While solving $5 \div (-1)$, the value does not lie between :

A. 0 and –10 ○ B. 0 and 10 ○

C. –4 and –15 ○ D. –6 and 6 ○

STEM 28.

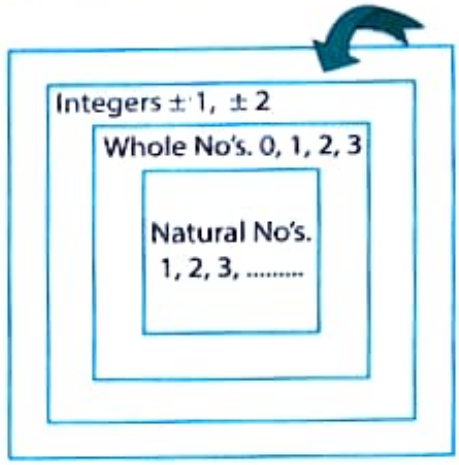
Which of the following is not in 3D?

A. Book ○ B. Leaf ○

C. Pen ○ D. Bag ○

STEM 29.

Shivita made a chart for decorating her school classroom.



But she forgot to fill the last square. What will be the heading of the last square?

A. All Numbers
B. Large Numbers
C. Rational Numbers
D. Irrational Numbers

STEM 30.

0.07 + 0.008 is equal to :

A. 0.15
B. 0.015
C. 0.078
D. 0.78

STEM 31.

The only whole number which does not has its prodecessor is :

A. 1
B. 2
C. 3
D. 0

STEM 32.

Out of the following statements, which one is false?

A. $(-5) \times (-7) = (-7) \times (-5)$
B. $7 \times (-3) = -21$
C. $-31 \times 105 = -31 \times (100 + 5)$
D. $[(-8) \times (-3)] \times (-4) = (-8) \times (-3) - (-8) \times (-4)$

STEM 33.

The sum of successive odd numbers from 1 to 15 is :

A. 81
B. 64
C. 49
D. 36

STEM 34.

The population of a small town was 1,16,000 on the last day of the year. During the next year, it increased by 8.5% but due to a virus outbreak it decreased by 10% in the following year. What was its population at the end of the year?

A. 1,02,526 ○ B. 1,09,250 ○

C. 1,13,274 ○ D. 1,17,318 ○

STEM 35.

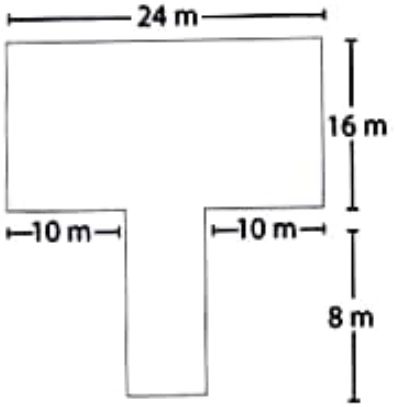
How many altitudes can a triangle has?

A. Only one ○ B. Two ○

C. Three ○ D. Four ○

STEM 36.

A park is in the form of 'T' shape as given in figure. Find the cost of mowing the park if mowing 1 m^2 park costs ₹5.



A. ₹ 2180 ○ B. ₹ 2160 ○

C. ₹ 2080 ○ D. ₹ 2085 ○