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Class: 7
Subject: Mathematics
Topic: ASK1507FT02
No. of Questions: 30

Q1. Which of the following statement is true?

(a) 7– 4 = 4 – 7
(b) 7 – 4 > 4 – 7
(c) 7 – 4 < 4 –7
(d) 7 – 4 = – 3

Sol. (b)

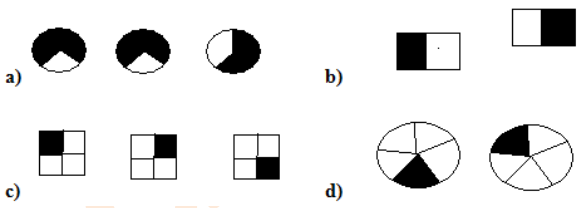
Q2. Identify the property used in the following:

$2 \times 13 + 8 \times 13 = (2+8) \times 13$

(a) Commutative
(b) Closure
(c) Associative
(d) Distributive

Sol. (d)

Q3. Which of the following drawing shows? $2 \times \frac{1}{5}$



Sol. (d)

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Q4. What is the value of 29.35–04.56?

(a) 23.75
(b) 16.35
(c) 16.25
(d) 24.79

Sol. (d)

Q5. Mode and median of the data 13, 16, 12,14,19,12,14,13,14 are:

(a) 13 & 1 4
(b) 14 & 13
(c) 14 & 14
(d) 19 & 13

Sol. (c)

Q6. There are 6 marbles in a box with number 1 to6 marked on each of them. What is the probability of drawing a marble with number 2?

(a) 1/6
(b) 1/5
(c) 1/3
(d) 1

Sol. (a)

Q7. In fig. the area of larger rectangle is 1750 m^2 and the area of smaller rectangle is 1350 m^2

(a) 3100 m^2
(b) 400 m^2
(c) 750 m^2
(d) 350 m^2

Sol. (b)

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Q8. In fig., the area of rectangular sheet is 50 cm^2 and the area of circle inside the sheet is 15 cm^2 cut from the sheet, then the area of remaining sheet will be

(a) 35 cm^2
(b) 65 cm^2
(c) 35 cm
(d) 65 cm

Sol. (a)

Q9. Write an expression: Raju s father s age is 5 years more than 3 times Raju s age . If Raju s age is x years , then father's age is
(a) 3x+5
(b) 5-3x
(c) 3x-5
(d) 15x

Sol. (a)

Q10. Which of the following is trinomial?
(a) 2a+6b-1
(b) 1
(c) 5a – 7
(d) a + b + c –3

Sol. (c)

Q11. The value of expression $2a^2+2b^2-ab$ for a=2, b=1is
(a) 2
(b) 8
(c) 6
(d) 10

Sol. (b)

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Q12. The value of expression $2a^2+2b^2-ab$ for a=2, b=1is

(a) -1
(b) -5
(c) 5
(d) 0

Sol. (a)

Q13. A line that intersects two or more lines at distinct points is called

(a) Parallel
(b) transversal
(c) intersecting
(d) none of these

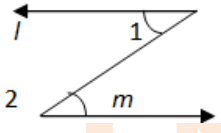
Sol. (b)

Q14. Two angles forming a linear pair are _____.

(a) Equal
(b) Supplementary
(c) Unequal
(d) Complementary

Sol. (b)

Q15. If l ‖ m , then ∠1= ∠2 because they are _____,



(a) corresponding angles
(b) vertically opposite angles
(c) alternate interior angles
(d) supplementary angles

Sol. (c)

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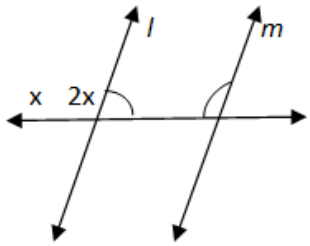
Q16. Find x if l ‖ m



(a) 30°
(b) 60°
(c) 90°
(d) 180°

Sol. (b)

Q17. Find the value of x
(a) 50°
(b) 70°
(c) 120°
(d) 180°

Sol. (c)

Q18. The approximate distance of moon from the earth is 384,467,000 m and in exponential form this distance can be written as _____ .
(a) $3.84,467\times10^{8}$m
(b) $384,467 \times 10^{-8}$ m
(c) $384,467 \times 10^{-9}$
(d) $3.844,67 \times 10^{-13}$ m

Sol. (a)

Q19. Find the number from the following expanded form: $9 \times 10^{5} + 2 \times 10^{2} + 3\times 10^{1}$
(a) 900203
(b) 912351
(c) 905302
(d) 900230

Sol. (d)

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Q20. Usual form of the expression 9×10^{-5} is given by _____ .

(a) 0.00009
(b) 0.000009
(c) 90×10^{-4}
(d) 0.09×10^{-3}

Sol. (a)

Q21. You want to show that $\Delta ART \cong \Delta PEN$, if you have to use SSS criterion, then you need to show AR =

(a) PN
(b) EN
(c) $\angle P$
(d) PE

Sol. (a)

Q22. According to Pythagoras property, in a right-angled triangle, the square on the _____ = sum of the squares on the legs.

(a) Right angle
(b) Altitude
(c) Hypotenuse
(d) None of these

Sol. (c)

Q23. The hypotenuse of a right triangle is 2 cm more than the longer side of the triangle. The shorter side of the triangle is 7 cm less that the longer side. Find the length of hypotenuse.

(a) 15
(b) 17
(c) 41
(d) 25

Sol. (b)

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Hypotenuse = Longer side + 2 cm Shorter side = Longer side – 7 cm

In right triangle,

(Hypotenuse)^2 = (Longer side)^2 + (Shorter side)^2 [from Pythagoras theorem]

$\therefore (x + 2)^2 = (x)^2 + (x - 7)^2$

$\Longrightarrow x^2 + 4x + 4 = x^2 + x\,2 - 14x + 49$

$\Longrightarrow x^2 + 4x + 4 = 2x^2 - 14x + 49$

$\Longrightarrow 2x^2 - x^2 - 14x - 4x + 49 - 4 = 0$

$\Longrightarrow x^2 - 18x + 45 = 0$

$\Longrightarrow x^2 - 15x - 3x + 45 = 0$

$\Longrightarrow x - 15 = 0$ or $x - 3 = 0$

$\Longrightarrow x = 15$ or $x = 3$

$\therefore x = 15$ (When x = 3, length or shorter side is negative which is not possible)

Length of hypotenuse of the triangle = (x + 2) cm = (15 + 2) cm = 17 cm

Q24. In a right angled isosceles triangle, find the ratio of their sides.

(a) $1 : 2\sqrt{2}$
(b) $2 : 3\sqrt{2}$
(c) $3\sqrt{2} : 2$
(d) $2\sqrt{2} : 1$

Sol. (a)

We have AB = BC

By Pythagorean Theorem

AC2 = AB^2 + BC^2 AC2 = AB2 +AB^2 AC2 = 2AB^2 AC2 = 2AB^2

AC = $\sqrt{2}$: AB AC = AB$\sqrt{2}$

AB : BC : AC = AB : AB : AB$\sqrt{2}$ = 1 : 2 $\sqrt{2}$

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Q25. The number of triangular faces of a triangular prism is _____.

(a) 6
(b) 7
(c) 9
(d) 5

Sol: (d)

5 (Bounded by 2 triangular bases and 3 adjoining faces.)

Q26. What will be the number of edges if there are 12 vertices and 20 faces?

(a) 25
(b) 28
(c) 30
(d) 40

Sol: (c)

30 (By formula : V-E+F = 2)

Q27. Find the number of lines of symmetry in a scalene triangle.

(a) 2
(b) 0
(c) 3
(d) 4

Sol: (b)

0 lines of symmetry

Q28. The ratio of the number of boys and girls in a college ion 7: 8. If the percentage increase in the number of boys and girls be 20% and 10% respectively, what will be the new ratio?

(a) 8 : 9
(b) 17 : 18
(c) 21 : 22
(d) Cannot be determined

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Sol. (c)

Originally, let the number of boys and girls in the college be 7x and 8x respectively.

Their increased number is (120 % of 7x) and (110% of 8x).

$\Rightarrow \left(\frac{120}{100}\times 7x\right)$ and $\left(\frac{110}{100}\times 8x\right)$

$\Rightarrow \frac{42x}{5}$ and $\frac{44x}{5}$

$\therefore$ The required ratio $= \left(\frac{42x}{5} : \frac{44x}{5}\right) = 21 : 22.$

Q29. Salaries of Ravi and Sumit are in the ratio 2: 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40 : 57. What is Sumit's salary?

(a) Rs. 17, 000

(b) Rs. 20, 000

(c) Rs. 25, 500

(d) Rs. 38, 0000

Sol. (d)

Let the original salaries of Ravi and Sumit be Rs. 2x and Rs. 3x respectively.

Then, $\frac{2x+4000}{3x+4000} = \frac{40}{57}$

$\Rightarrow 57\ (2x + 4000) = 40\ (3x + 4000)$

$\Rightarrow 6x = 68,000$

$\Rightarrow 3x = 34,000$

Sumit's present salary = $(3x + 4000) = \text{Rs.}\,(34000 + 4000) = \text{Rs.}\,38000.$

Q30. If 0.75 : x :: 5 : 8, then x is equal to:

(a) 1.12

(b) 1.2

(c) 1.25

(d) 1.30

Sol. (b)

$(x\times 5) = (0.75\times 8) \Rightarrow x = \left(\frac{6}{5}\right) = 1.20$