رياضيات «لغات» .. للشهادة الابتدائية

لا يخلو منه أى امتحان

إعداد أسرة الرياضيات «لغات» :


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1- Choose the correct answer from those between brackets:

[1] $|-7| + 7 =$ ..... (-14 , 0 , 7 , 14)

[2] $\mathbb{Z} - \mathbb{N} =$ ..... ($\mathbb{Z}^-$, $\mathbb{N}$, {0} or $\mathbb{Z}^+$)

[3] If the length of the radius of a circle is 10 cm, then its surface area = ... cm^2 ($\pi = 3.14$)

(3.14 , 31.4 , 314 or 3140)

[4] In the experiment of rolling a fair die once, then the probability of appearing the number 5 equals ....

(0 , $\frac{1}{6}$, $\frac{5}{6}$ or 1)

[5] If $x - 4 = 6$, then $x =$ .....

(6 , 7 , 8 or 10)

[6] If the area of a face of a cube = 4 cm^2, then its lateral area = ... cm^2

(12 , 16 , 32 or 64)

[7] $(-1)^3 + (1)^3 =$ ..... (0 , 1 , -1 or 2)

[8] The smallest positive integer is ...

(-1 , 0 , 2 or 1)

[9] If the length edge of a cube is 4 cm, then its total area = ...

($64cm^2$, $16cm^2$, 64cm or $96cm^2$)

[10] If $5x = 10$, then $x =$ .....

(2 , 5 , 10 or 12)

[11] The sum of measures of the accumulative angles around the centre of a circle = ...°

(90 , 180 , 270 , or 360)

[12] An integer number included between -2 and 3 is .....

(-2 , -1 , -3 or -4)

[13] A circle of diameter length 8 cm, then its area = ... π cm^2

(4 , 8 , 16 or 64)

[14] The number which satisfies the

[6] $\mathbb{Z}^+ \cup \{0\} \cup \mathbb{Z}^- =$ .....

[7] The additive neutral element in $\mathbb{Z}$ is ....., while the multiplicative neutral element in $\mathbb{Z}$ is .....

[8] The S.S of the equation $3x + 1 = (-5)$ in $\mathbb{Z}$ is .....

[9] If the radius of a circle is 7cm, then its area ..... ($\pi \simeq \frac{22}{7}$)

[10] The lateral area of a cube = ... × .....

[11] The image of the point (3 , –2) by translation (–3 , 2) is .....

[12] The image of the point A (–4 , 3) by translation (–1 , –5) is .....

[13] The image of the point (2 , 5) by translation $(x , y) \longrightarrow (x + 2 , y + 1)$ is .....

[14] The image of the point (3 , 2) by translation $(x , y) \longrightarrow (x + 3 , y + 2)$ is .....

[15] The set of solution of the inequality $-2 < x \leq$ zero in $\mathbb{Z}$ is ....

[16] $\mathbb{Z} = \mathbb{N} \cup$ .....

[17] $(-10)^{zero} =$ .....

[18] $(-19)^0 + (19)^0 =$ .....

[19] the probability of an impossible event = ...

[20] All outcomes you can get in a random experiment are called ....

Answers

[1] 21, 34 [2] ∅ [3] zero

$x = 7$, The S.S = {7}

[b] $4x + 1 = 17$, $4x = 17 - 1$

$4x = 16$, $x = 16 \div 4$

$x = 4$, The S.S = {4}

5- Find the solution set of the following inequality:

$3x - 2 \geq (-17)$, where $x \in \mathbb{Z}$.

Answer

$3x - 2 \geq (-17)$, $3x \geq (-17) + 2$

$3x \geq (-15)$, $x \geq \frac{(-15)}{3}$

$x \geq (-5)$

The S.S = { -5 , -4 , -3 , -2 , ... }

6- Essay questions:

inequality $x > -2$ is .....

(-1 , -4 , -3 or -2)

[15] The measure of the angle of the sector which represents $\frac{1}{4}$ the circle equals ....° (90 , 180 , 270 , or 360)

[16] $|-9| + 3 \div 2$ ... $\mathbb{Z}$ ($\in$, $\notin$, $\subset$ or $\not\subset$)

[17] If $x + 3 = 8$ and $x \in \mathbb{Z}^-$, then the solution set is ..... ({-3}, {5}, {-5} or $\emptyset$)

[18] $2^3 \times 2^5 =$ ... (2^8, 2^{15} , 4^8 or 4^{15})

[19] If the perimeter of one face of a cube = 20 cm, then its total area = ... ($100cm^2$, $120cm^2$, $150cm^2$ or $200cm^2$

[20] A coin is tossed 250 times, then the closest expected number of appearing a head = ...

(124 , 127 , 150 or 199)

Answers

[1] 14 [2] $\mathbb{Z}^-$ [3] 314 [4] $\frac{1}{6}$

[5] 10 [6] 16 [7] 0 [8] 1

[9] $96cm^2$ [10] 2 [11] 360

[12] -1 [13] 16 [14] -1 [15] 90

[16] $\notin$ [17] $\emptyset$ [18] 2^8

[19] $150cm^2$ [20] 124

2- Complete each of the following:

[1] 1, 1, 2, 3, 5, 8, 13 , ... , ...

(in the same pattern)

[2] $\mathbb{Z}^+ \cap \mathbb{Z}^-$ = ...

[3] $|-2| - 2$ = ...

[4] The lateral area of a cuboid = ... × .....

[5] The lateral area of a cuboid whose base dimensions are 3 cm, 2 cm and its height is 4 cm equals ...

[4] perimeter of the base × height

[5] 40 cm^2 [6] $\mathbb{Z}$

[7] 0 , 1 [8] { –2 } [9] 154 cm^2

[10] the area of one face × 4

[11] (0 , 0) [12] (–5 , –2)

[13] (4 , 6) [14] (6 , 4)

[15] { -1 , zero } [16] { $\mathbb{Z}^-$ }

[17] 1 [18] 2 [19] zero

[20] sample space

3- Neveen used a piece of card cartoon squared shape of side length 80 cm. with tools to design a cuboid of length 40 cm. ? width 20 cm. and height 30 cm. Show if the piece of card cartoon is enough to design the cuboid or not.

Answer

The area of card cartoon = 80×80

$= 6400 \text{ cm}^2$

The total area of cuboid

$= (40 + 20) \times 2 \times 30 + 2 \times 40 \times 20$

$= 5200 \text{ cm}^2$

The piece of card cartoon is enough to design the cuboid.

4- Find the solution set of each of the following equations:

[a] $x - 2 = 5$, where $x \in \mathbb{Z}$.

[b] $4x + 1 = 17$, where $x \in \mathbb{N}$.

Answers

[a] $x - 2 = 5$, $x = 5 + 2$

[1] A cuboid-shaped box without a lid, has a base with dimensions 4 metres and 3 metres and its height 2 metres Find: (a) Its base area.

(b) Its lateral area.

(c) Its total area.

Answer

(a) Its base area = $3 \times 4 = 12 \text{ m}^2$

(b) The lateral area

$= [(3 + 4) \times 2] \times 2 = 28 \text{ m}^2$

(c) The total area = 28 + 12 = 40 m

[2] A box contains 6 white balls and 9 red balls, all are identical, if a ball is drawn randomly, calculate the following probabilities:

(1) Drawing a white ball.

(2) Drawing a red ball.

(3) Drawing a ball not red and not white.

Answer

(1) P(a white ball) = $\frac{6}{15} = \frac{2}{5}$

(2) P(a red ball) = $\frac{9}{15} = \frac{3}{5}$

(3) P(a ball not red and not white) = $\frac{0}{15} = 0$

[3] Draw Δ ABC, where A (1 , 1) , B (–3 , –1) and C (0 , –5), then determ graphically its image by translation (5 , 0).

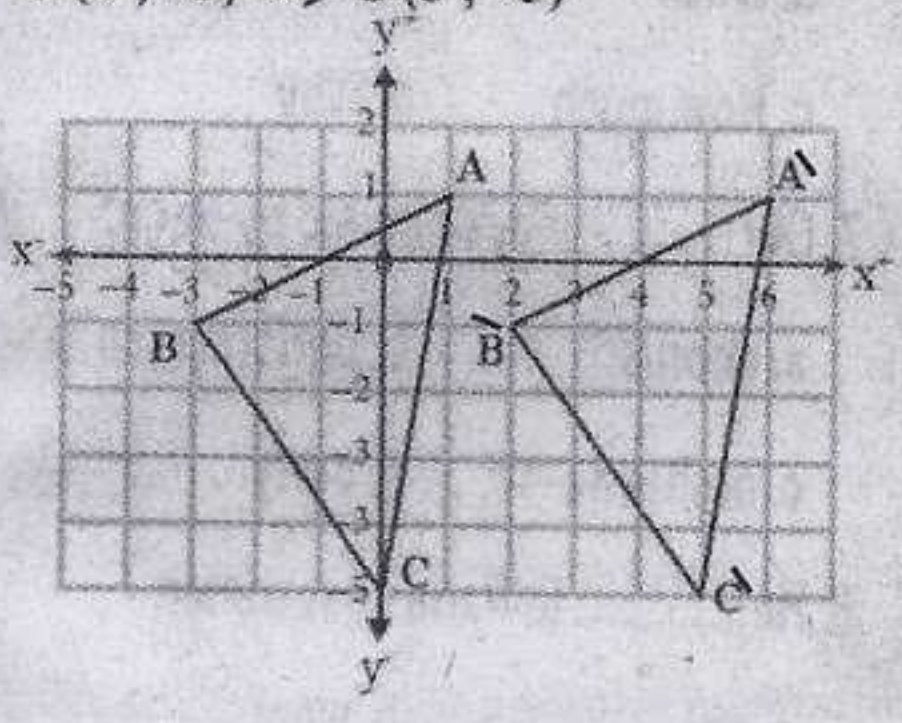
Answer

A (1 , 1) → À (6 , 1)

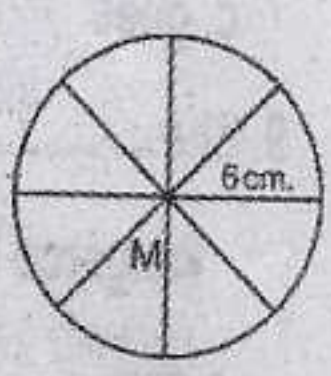
B (–3 , –1) → B̀ (2 , –1)

مراجعة ليلة الامتحان فى ا
بنـك أسـئلة لـ

$C(0,-5) \rightarrow \grave{C}(5,-5)$



[4] In the opposite figure:



A circle M of radius length 6 cm is divided into 8 circular sectors equal in area.

Find the area of one sector.(π= 3.14)

Answer

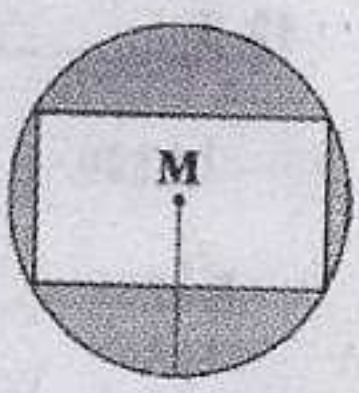
The area of the circle = πr^2

$= 3.14 \times 6^2 = 113.04\ cm^2$

The area of one sector = 113.04 ÷ 8

$= 14.13\ cm^2$

[5] In the figure below, M is a circle of radius length 5 *cm*, a rectangle is drawn inside it, its length is 8 *cm* and width is 4 *cm*.



Calculate the area of the shaded part. ($\pi = \frac{22}{7}$ or 3.14)

Answer

The area of the circle = πr^2

$= 3.14 \times 5 \times 5 = 78.5\ cm^2$.

The area of the rectangle

$= 4 \times 8 = 32\ cm^2$.

The area of the shaded part

The measure of the central angle for

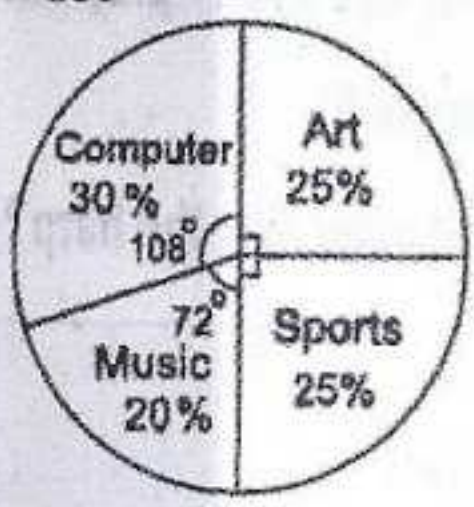
Computer = $\frac{30}{100} \times 360° = 108°$

The measure of the central angle for

Music = $\frac{20}{100} \times 360° = 72°$

The measure of the central angle for

Sports = $\frac{25}{100} \times 360° = 90°$



[9] Arrange in an ascending order:

$(-2)^5, (-3)^4, (-4)^0, (-1)^{15}, 3^2$

Answer

$(-2)^5 = -32$, $(-3)^4 = 81$,

$(-4)^0 = 1$, $(-1)^{15} = -1$, $3^2 = 9$.

The order is:

$(-2)^5, (-1)^{15}, (-4)^0, 3^2, (-3)^4$

[10] Find the result of: $\frac{3^3 \times (-3)^2}{3^4}$

Answer

$$\frac{3^3 \times (-3)^2}{3^4} = \frac{3^3 \times 3^2}{3^4} = \frac{3^5}{3^4} = 3$$

[11] Find the value of each of the following:

a) $\frac{(-3)^3 \times (-3)^4}{(-3)^5}$ **b)** $\frac{9^6 \times (-9)^3}{9^2 \times (-9)^5}$

Answers

a) $\frac{(-3)^3 \times (-3)^4}{(-3)^5} = \frac{(-3)^7}{(-3)^5} = (-3)^2 = 9$

b) $\frac{9^6 \times (-(9)^3)}{9^2 \times (-(9)^5)} = \frac{-(9)^9}{-(9)^7} = 9^2 = 81$

[12] Find the S.S. of each of the

$= 40.5\ cm^2$.

[6] A container water tank is in the form a cube whose inner length is 1,5 m, It is wanted to paint it to prevent the rust. The cost price of one square meter is L.E 15, calculate the cost of painting.

Answer

The area of one face

$= 1.5 \times 1.5 = 2.25\ m^2$

The total area $= 6 \times 2.25 = 13.5\ m^2$

The cost of painting

$= 13.5 \times 15 =$ L.E 202.5

7] Use the properties of multiplication of integers to find

$(-4) \times 56 \times (-25)$

Answer

$(-4) \times 56 \times (-25) = (-4) \times (-25) \times 56$

(Commutative)

$[(-4) \times (-25)] \times 56$ (Associative)

$100 \times 56 = 5600$

The following table shows the rcentage of pupils taking a part in fferent school activities:

ctivity	Art	Computer	Music	Sports
%	25%	30%	20%	25%

present these data by a pie chart.

The measure of the central angle

Art $= \frac{25}{100} \times 360° = 90°$

represent the S.S. on the number line:

(a) $2x + 1 < 7$, where $x \in \mathbb{N}$.

(b) $2x - 5 \leq -7$, where $x \in \mathbb{Z}$.

Answers

(a) $2x + 1 < 7$, $2x < 7 - 1$

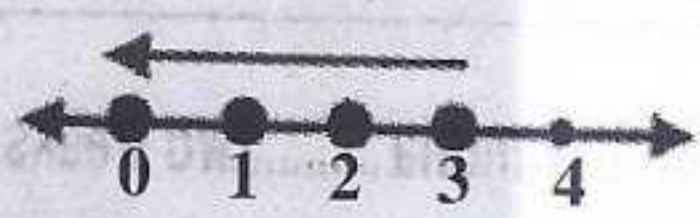
$2x < 6$, $\frac{2x}{2} < \frac{6}{2}$, $x < 3$

The S.S. $= \{0, 1, 2\}$

(b) $2x - 5 \leq -7$, $2x \leq -7 + 5$

$2x \leq -2$, $\frac{2x}{2} \leq \frac{-2}{2}$, $x \leq -1$

The S.S. $= \{-1, -2, -3, \ldots\}$



[13] Find the solution set of each of the following equations:

(a) $8x = 32$, where $x \in \mathbb{N}$.

[b] $3x + 1 = 16$, where $x \in \mathbb{N}$.

[c] $3x - 2 = (-19)$, where $x \in \mathbb{Z}$.

Answers

(a) $8x = 32$, $x = 32 \div 8$

$x = 4$, The S.S $= \{4\}$

(b) $3x + 1 = 16$, $3x = 16 - 1$

$3x = 15$, $x = 15 \div 3$

$x = 5$, The S.S $= \{5\}$

(c) $3x - 2 = (-19)$, $3x = (-19) + 2$

$3x = (-17)$

$x = \frac{(-17)}{3}$ (impossible in $\mathbb{Z}$)

The S.S $= \emptyset$