MARCH
REVISION

المنقذ

You Must Add Value

MATH

اعداد

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PREP 1

2026

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مجاب عنه

Model (1)

Question 1 : Choose the correct answer :

1. The third of the number 3^5 is ……

   (a) 3^2 (b) 3^3 (c) 3^4 (d) 3^5

2. $(a^4 + a^3) \div a^2 = \cdots$

   (a) $a^6 + a^5$ (b) $a^8 + a^6$ (c) $a^3 + a^2$ (d) $a^2 + a$

3. If a and b are the square root of the number 4 , what is the value of $b + a$?

   (a) $2a$ (b) $2b$ (c) 1 (d) 0

4. $\sqrt[3]{x^9} = \sqrt{\quad}$

   (a) x^6 (b) x^8 (c) x^3 (d) x^4

5. $(2x^3y^2)(-xy^4)$

   (a) x^4y^6 (b) $2x^4y^6$ (c) $3x^4y$ (d) $-2x^4y^6$

6. $(16x + 4) \div 4$

   (a) $4x$ (b) $4x + 1$ (c) $3a + 1$ (d) $4a + 8$

7. The s.s for $-5n > 0$ is …..

   (a) Q (b) Q_+ (c) Q_- (d) Z

8. $\frac{125x^3y^3}{\ldots\ldots} = 5xy^2$

   (a) $25x^2$ (b) $5x^2$ (c) x^3y^2 (d) $25x^2y$

9. Which of the following equal $\frac{3}{x}$?

   (a) x^{-3} (b) $3x$ (c) $3x^{-1}$ (d) $\frac{1}{3}x$

Question 2 : Answer the following questions :

1. A trapezium with an area of 560 square feet and a height of 20 feet . if the length of one of its parallel , bases is 44 feet , then find the length of its other base .

2. Simplify to its simplest form : $\left(\frac{1}{2}\right)^0 - \sqrt[3]{\frac{-125}{343}} - \sqrt{2\frac{7}{9}}$

3. $(0.2 \times 10^8) - (3.2 \times 10^9)$

4 If $x = -3$, $y = 2$ find the numerical value of each of the following :
1) x^y 2) $(-y)^3$ 3) $(x + y)^2$

5 Simplify to the simplest form : $\frac{a^{-3} \times a^{-2} \times a}{a^2}$

6 Find the product : $(4x + 1)(2x + 3)$

7 $15x^2y^3 \div \ldots = 3xy$

Model (2)

Question 1 : Choose the correct answer :

1 If $m \in n$, then s.s for $3m < 9$ is

(a) $\{3\}$ (b) $\{1,2,3\}$ (c) $\{\ldots,0,1,2\}$ (d) $\{0,1,2\}$

2 $x(x - 4) - x = \cdots$

(a) $x^2 - 4 + x$ (b) $x - 4$ (c) $x^2 - 5x$ (d) $x^2 - 4x$

3 What is the algebraic expression that , represents the area of the opposite square ?

(a) $4x$ (b) $8x$ (c) $8x^2$ (d) $16x^2$

4 The multiplicative inverse of $\sqrt[3]{\frac{125}{-8}}$ is

(a) $\frac{5}{2}$ (b) $\frac{2}{5}$ (c) $-\frac{2}{5}$ (d) $-\frac{5}{2}$

5 If $a(8x + 4) = 16x^2 - 8x$, then what is the value of a ?

(a) $2x$ (b) $2x^2$ (c) $4x$ (d) $4x^2$

6 A cube with a volume of 729 cubic units , what is the length of its edge ?

(a) 9 (b) 10 (c) 14 (d) 12

7 A rhombus of diagonal length , $4cm, 5Cm$ then its area = …

(a) 20 (b) 10 (c) 40 (d) 9

8 $57000 = 5.7 \times 10^{m}$, then m =…

(a) 4 (b) 5 (c) -4 (d) -5

9 $4y^{-4} = \cdots$

(a) $4y^2$ (b) $\frac{4}{y^2}$ (c) $\frac{1}{4}y^4$ (d) $\frac{4}{y^4}$

Question 2 : Answer the following questions :

1 Find the s.s of the inequality : $\mathbf{3x - 2 \leq 4}$ in N

2 Find in Q the s.s of $x^2 - 3 = 6$?

3 A trapezium with a middle base length of 8cm , a height 12cm , find its area ?

4 Find the quotient of : $8x^3 - 20x^2 - 10 + 4x$ divided by $4x^2 + 2$

5 If $(40x^2y^4 - 36x) \div (4x) = n \times y^4 + 9$, what is the value of n ?

6 A square with a side length of $(x - 4)$ length units , find its surface area in terms of x , then find the value of the area , when $x = -5$

7 Find the value : $\frac{(7)^0 \times (7)^{-2}}{(7)^{-3} \times (7)-4}$

Model (3)

Question 1 : Choose the correct answer:

1 $10 = 1x10^{\cdots}$

(a) 0 (b) 1 (c) 3 (d) 2

2 The half of number 2^4 is ..

(a) 2^3 (b) 2^8 (c) 2^4 (d) 2^5

3. If $-\sqrt{16} = \sqrt[3]{y}$, then what is the value of y ?

(a) 64 (b) -4 (c) 16 (d) -64

4. If $x + y = 4$ *and* $x - y = 8$, then what is the value of $x^2 - y^2$?

(a) 2 (b) 32 (c) 4 (d) 36

5. $7.52 \times 10^{12} = k \times 10^{-11}$, what is the value of k ?

(a) 75.2 (b) 7.52 (c) 0.752 (d) 0.0752

6. Which of the following equals 5^{-3}

(a) $\frac{1}{5}$ (b) 125 (c) $\frac{1}{125}$ (d) 25

7. $15x^3y^2 \div \ldots = 3xy$

(a) $5y$ (b) $5x^2y$ (c) $5xy$ (d) x^2y

8. Which the s.s of this inequality $2x + 2 < 4$? in z

(a) 1 (b) *zero* (c) 2 (d) 4

9. If $3^2xa = 3^5$, what is the value of a ?

(a) 3^4 (b) 3^3 (c) 3^6 (d) 3^{10}

Question 2 : Answer the following questions :

1. A cube of volume 125 cm^2, find its total area ?

2. Find in the simplest form : $\frac{3^8 \times 3^3}{3^4 \times 3^5}$

3. Find the quotient of dividing $(x^3 + x + 10) by (x + 2)$

4. Simplify : $\sqrt{\frac{36}{25}} \times \sqrt[3]{\frac{125}{216}} x \left(\frac{4}{5}\right)^0$?

5. Find the solution set in z for the inequality

$4(x - 3) > 8$

6 Find the result $(6.5 \times 10^4)(8 \times 10^2)$

7 A square with a diagonal length 8 cm find its area ?

Model (4)

Question 1 : Choose the correct answer :

1 $\ldots \div (8ab) = 4ab$

(a) 2 (b) $12ab$ (c) $2a^2b^2$ (d) $32a^2b^2$

2 If $-\sqrt{9} = \sqrt[3]{x}$, then what is the value of x ?

(a) 3 (b) -3 (c) -9 (d) -27

3 Which of the following is the multiplicative inverse of the number 5^{-2}?

(a) $-\frac{1}{25}$ (b) -25 (c) $\frac{1}{25}$ (d) 25

4 If $3^m = 81$, then what is the value of m ?

(a) 4 (b) 27 (c) -4 (d) 2

5 If the number 250000in scientific notation equals 2.5×10^m , then m =…

(a) -4 (b) -5 (c) 4 (d) 5

6 What is the inequality that express that the number x is greater than 6 ?

(a) $x \leq 6$ (b) $x \geq 6$ (c) $x > 6$ (d) $x < 6$

7 If $(x - 2)$is one of the factors of the expression : $3x^2 - 7x + 2$, then the other factor is ….

(a) $3x + 1$ (b) $3x + 2$ (c) $x + 1$ (d) $3x - 1$

8 A square with a diagonal length of 12 feet has an area of …..square feet .

(a) 36 (b) 72 (c) 144 (d) 180

9 If $-x < 3$, then which of the following is true ?

(a) $x \leq 3$ (b) $x > -3$ (c) $x < 3$ (d) $x < -3$

Question 2 : Answer the following questions :

1. A trapezium with an area of 280 square feet and a height of 10 feet.
If the length of one of its parallel bases is 22 feet , then find the length of its other base

2. Find the solution set for the following equation in z :
$3x^2 - 2 = 10$

3. Simplify to the simplest form : $\frac{x^{-3} \times x^5 \times (-x)^4}{x^2 \times x^{-4} \times x^6}$, then find the numerical value when $x = 2$

4. Find the solution set for the following inequality in Q ?
$2(x + 1) \leq 5(x - 4)$

5. Simplify to the simplest form : $\sqrt{\frac{4}{25}} + \left(\frac{-3}{2}\right)^0 + \sqrt[3]{\frac{27}{125}}$

6. If the expression $(x^2 + x - m)$ is divided by $(x + 4)$, then find the value of m ?

7. The total (surface)area of a cube is 1.350 square centimeters find its edge lengths

Model (5)

Question 1 : Choose the correct answer :

1. If $x - 2 < 5$, then which of the following could be the value of x ?

(a) 6 (b) 7 (c) 8 (d) 9

2. A cube has a volume of x^6 , then what is the length of it's the edge ?

(a) x (b) x^2 (c) x^3 (d) $6x^3$

3 The multiplicative inverse of $(-3)^2$ is …….

(a) 3^2 (b) -3^2 (c) $\frac{1}{9}$ (d) $(-2)^3$

4 If $m = 2n$, $then\ (4)^{m-2n}$…

(a) $m - 2n$ (b) 4 (c) 1 (d) 0

5 What is the quotient of $(x^2 - 10x + 25)$ divided by $(x - 5)$?

(a) $x + 5$ (b) $x - 5$ (c) $x + 10$ (d) $x - 10$

6 $(-3a^2b)(2ab)(-6a) = \cdots$

(a) $-36a^4b^2$ (b) $36a^4b^2$ (c) $-7a^3b^2$ (d) $36a^4b^2c$

7 A trapezium with a height of 5cm and the lengths of its middle base is 9cm , What is the area ?

(a) 45 (b) 225 (c) 50 (d) 14

8 Which of the following inequalities has one of its solutions is $x = -3\ \ in\ Q$?

(a) $-x > 3$ (b) $x \geq 2$ (c) $x > -3$ (d) $-x > -3$

9 If a and b are the square roots of the number c , then what is the value of $a + b$?

(a) $2a$ (b) $2b$ (c) 1 (d) $zero$

Question 2 : Answer the following questions :

1 If $(\boldsymbol{2x + 3})$ is a factor of expression $(\boldsymbol{2x^2 - 15 - 7x})$, then find the other factor

2 Find the length of the diagonal of the square whose area equal to the area of rhombus with diagonal length of 4 meters and 16 meters

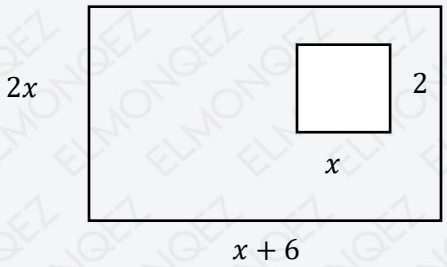
3 Simplify to its simplest form : $(x - y)^2 - x^2$, then find the numerical value of the result when $x = -1\ \ and\ y = 2$

4 Find the quotient : $\frac{3ab^2+9a^2b-6a^2b^2}{3ab}$?

5 Write the result of the following in scientific notation :
$(2.14 \times 10^5) + (5.4 \times 10^4)$

6 A square with a side length of $(x + 4)$ length units .
Calculate its surface area in terms of x

7 Find in the simplest form the algebraic expression that represents the area of the shaded part



المنقذ

You Must Add Value

نموذج الاجابة

PREP 1

SECOND TERM

Question 1 : Choose the correct answer :

1. The third of the number 3^5 is ……

   (a) 3^2 (b) 3^3 (c) 3^4 (d) 3^5

2. $(a^4 + a^3) \div a^2 = \cdots$

   (a) $a^6 + a^5$ (b) $a^8 + a^6$ (c) $a^3 + a^2$ (d) $a^2 + a$

3. If a and b are the square root of the number 4 , what is the value of $b + a$?

   (a) $2a$ (b) $2b$ (c) 1 (d) 0

4. $\sqrt[3]{x^9} = \sqrt{\quad}$

   (a) x^6 (b) x^8 (c) x^3 (d) x^4

5. $(2x^3y^2)(-xy^4)$

   (a) x^4y^6 (b) $2x^4y^6$ (c) $3x^4y$ (d) $-2x^4y^6$

6. $(16x + 4) \div 4$

   (a) $4x$ (b) $4x + 1$ (c) $3a + 1$ (d) $4a + 8$

7. The s.s for $-5n > 0$ is …..

   (a) Q (b) Q_+ (c) Q_- (d) Z

8. $\frac{125x^3y^3}{\ldots} = 5xy^2$

   (a) $25x^2$ (b) $5x^2$ (c) x^3y^2 (d) $25x^2y$

9. Which of the following equal $\frac{3}{x}$?

   (a) x^{-3} (b) $3x$ (c) $3x^{-1}$ (d) $\frac{1}{3}x$

Question 2 : Answer the following questions :

1. A trapezium with an area of 560 square feet and a height of 20 feet . if the length of one of its parallel , bases is 44 feet , then find the length of its other base .

$$A = \frac{a+b}{2}h$$

$$560 = \frac{44+b}{2} \times 20$$

$$1120 = 880 + 20b$$
$$240 = 20\,b$$
$$b = 12\ Feet$$

2 Simplify to its simplest form : $\left(\frac{1}{2}\right)^0 - \sqrt[3]{\frac{-125}{343}} - \sqrt{2\frac{7}{9}}$

$$1 - \left(\frac{-5}{7}\right) - \frac{5}{3} =$$

3 $(0.2 \times 10^8) - (3.2 \times 10^9)$

$= (0.2 \times 10^8) - (32 \times 10^8)$

$= (0.2 - 32) \times 10^8$

$= -31.8 \times 10^8$

$= -3.18 \times 10^9$

4 If $x = -3$, $y = 2$ find the numerical value of each of the following :

1) x^y 2) $(-y)^3$ 3) $(x + y)^2$

1) $(-3)^2 = 9$

2) $(-2)^3 = -8$

3) $(-3 + 2)^2 = 1$

5 Simplify to the simplest form : $\frac{a^{-3} \times a^{-2} \times a}{a^2}$

$$a^{-3+2+1-2} = a^{-2} = \frac{1}{a^2}$$

6 Find the product : $(4x + 1)(2x + 3)$

$$(4x)(2x) + (4x)(3) + (1)(2x) + (1)(3)$$
$$8x^2 + 12x + 2x + 3$$
$$8x^2 + 14x + 3$$

7 $15x^2y^3 \div \ldots = 3xy$

$$\frac{15x^2y^3}{3xy^2} = 5xy$$

Question 1 : Choose the correct answer :

1. If $m \in n$, then s.s for $3m < 9$ is

   (a) $\{3\}$ (b) $\{1,2,3\}$ (c) $\{\ldots,0,1,2\}$ (d) $\{0,1,2\}$

2. $x(x-4)-x = \cdots$

   (a) x^2-4+x (b) $x-4$ (c) x^2-5x (d) x^2-4x

3. What is the algebraic expression that , represents the area of the opposite square ?

   (a) $4x$ (b) $8x$ (c) $8x^2$ (d) $16x^2$

4. The multiplicative inverse of $\sqrt[3]{\frac{125}{-8}}$ is

   (a) $\frac{5}{2}$ (b) $\frac{2}{5}$ (c) $-\frac{2}{5}$ (d) $-\frac{5}{2}$

5. If $a(8x+4) = 16x^2 - 8x$, then what is the value of a ?

   (a) $2x$ (b) $2x^2$ (c) $4x$ (d) $4x^2$

6. A cube with a volume of 729 cubic units , what is the length of its edge ?

   (a) 9 (b) 10 (c) 14 (d) 12

7. A rhombus of diagonal length , $4cm, 5Cm$ then its area = …

   (a) 20 (b) 10 (c) 40 (d) 9

8. $57000 = 5.7 \times 10^m$, then m =…

   (a) 4 (b) 5 (c) -4 (d) -5

9. $4y^{-4} = \cdots$

   (a) $4y^2$ (b) $\frac{4}{y^2}$ (c) $\frac{1}{4}y^4$ (d) $\frac{4}{y^4}$

Question 2 : Answer the following questions :

1. Find the s.s of the inequality : $3x - 2 \leq 4$ in N

$$3x \leq 4+2$$
$$3x \leq 6$$
$$x \leq 2$$
$$s.s = \{2,3,4,5,\ldots\}$$

2 Find in Q the s.s of $x^2 - 3 = 6$?

$$x^2 = 6 + 3$$
$$x^2 = 9$$
$$x = \sqrt{9} = \pm 3$$
$$s.s = \{\pm 3\}$$

3 A trapezium with a middle base length of 8cm , a height 12cm , find its area ?

The area = length of middle base X h

$$8 \times 12 = 96cm^2$$

4 Find the quotient of : $8x^3 - 20x^2 - 10 + 4x$ divided by $4x^2 + 2$

$2x - 5$

$$\begin{array}{r|l} & 2x - 5 \\ \hline 4x^2 + 2 & 8x^3 - 20x^2 - 10 + 4x \\ & -8x^3 \quad\quad - 4x \\ \hline & -20x^2 - 10 \\ & -20x^2 - 10 \\ \hline & 00 \end{array}$$

5 If $(40x^2y^4 - 36x) \div (4x) = n \times y^4 + 9$, what is the value of n ?

$$(40x^2y^4 - 36x) \div (-4x)$$
$$(-10xy^4 + 9) = nxy^4 + 9$$
$$n = -10$$

6 A square with a side length of $(x - 4)$ length units , find its surface area in terms of x , then find the value of the area , when $x = -5$

$$area = (x - 4)(x - 4)$$
$$x^2 - 4x - 4x + 16$$
$$x^2 - 8x + 16 \quad , \quad when\ x = -5$$
$$(-5)^2 - 8(-5) + 16 = 81\ square\ unit$$

7 Find the value : $\frac{(7)^0 \times (7)^{-2}}{(7)^{-3} \times (7)^{-4}}$

$$(7)^{0-2+3+4} = 7^5 = 16{,}807$$

Question 1 : Choose the correct answer:

1. $10 = 1x10^{\cdots}$
   (a) 0 (b) **1** (c) 3 (d) 2

2. The half of number 2^4 is ..
   (a) 2^3 (b) 2^8 (c) 2^4 (d) 2^5

3. If $-\sqrt{16} = \sqrt[3]{y}$, then what is the value of y ?
   (a) 64 (b) -4 (c) 16 (d) -64

4. If $x + y = 4$ *and* $x - y = 8$, then what is the value of $x^2 - y^2$?
   (a) 2 (b) 32 (c) 4 (d) 36

5. $7.52 \times 10^{12} = k \times 10^{-11}$, what is the value of k ?
   (a) 75.2 (b) 7.52 (c) 0.752 (d) 0.0752

6. Which of the following equals 5^{-3}
   (a) $\frac{1}{5}$ (b) 125 (c) $\frac{1}{125}$ (d) 25

7. $15x^3y^2 \div \ldots = 3xy$
   (a) $5y$ (b) $5x^2y$ (c) $5xy$ (d) x^2y

8. Which the s.s of this inequality $2x + 2 < 4$? in z
   (a) 1 (b) *zero* (c) 2 (d) 4

9. If $3^2xa = 3^5$, what is the value of a ?
   (a) 3^4 (b) 3^3 (c) 3^6 (d) 3^{10}

Question 2 : Answer the following questions :

1. A cube of volume 125 cm^2, find its total area ?

$$v = a^3 \qquad a = \sqrt[3]{125} = 5cm$$
$$area = 6a^2 = 6 \times (5)^2 = 150\ cm^2$$

2 Find in the simplest form : $\frac{3^8 \times 3^3}{3^4 \times 3^5}$

$3^{8+3-4-5} = 3^2 = 9$

3 Find the quotient of dividing $(x^3 + x + 10) by (x + 2)$

$x^2 - 2x + 5$

$$\begin{array}{r|l} & x^2 - 2x + 5 \\ x + 2 & x^3 + x + 10 \\ & -x^3 - 2x^2 \\ \hline & 2x^2 + x + 10 \\ & -2x^2 + 4x + 10 \\ \hline & 5x + 10 \end{array}$$

4 Simplify : $\sqrt{\frac{36}{25}} \times \sqrt[3]{\frac{125}{216}} x \left(\frac{4}{5}\right)^0$?

$\frac{6}{5} x \frac{5}{6} \times 1 = 1$

5 Find the solution set in z for the inequality

$4(x - 3) > 8$

$4(x - 3) > 8$
$4x - 12 > 8$
$4x > 8 + 12$
$4x > 20$
$x > 5$

6 Find the result $(6.5 \times 10^4)(8 \times 10^2)$

$(6.5 \times 8)(10^4 \times 10^2)$
$= 52 \times 10^6$

7 A square with a diagonal length 8 cm find its area ?

$A = \frac{1}{2} d^2$

$A = \frac{1}{2}(8)^2 = 32 Cm^2$

Question 1 : Choose the correct answer :

1. $\ldots \div (8ab) = 4ab$

   (a) 2 (b) $12ab$ (c) $2a^2b^2$ (d) $32a^2b^2$

2. If $-\sqrt{9} = \sqrt[3]{x}$, then what is the value of x ?

   (a) 3 (b) -3 (c) -9 (d) -27

3. Which of the following is the multiplicative inverse of the number 5^{-2}?

   (a) $-\frac{1}{25}$ (b) -25 (c) $\frac{1}{25}$ (d) 25

4. If $3^m = 81$, then what is the value of m ?

   (a) 4 (b) 27 (c) -4 (d) 2

5. If the number 250000in scientific notation equals 2.5×10^m , then m =…

   (a) -4 (b) -5 (c) 4 (d) 5

6. What is the inequality that express that the number x is greater than 6 ?

   (a) $x \leq 6$ (b) $x \geq 6$ (c) $x > 6$ (d) $x < 6$

7. If $(x - 2)$is one of the factors of the expression : $3x^2 - 7x + 2$, then the other factor is ….

   (a) $3x + 1$ (b) $3x + 2$ (c) $x + 1$ (d) $3x - 1$

8. A square with a diagonal length of 12 feet has an area of …..square feet .

   (a) 36 (b) 72 (c) 144 (d) 180

9. If $-x < 3$, then which of the following is true ?

   (a) $x \leq 3$ (b) $x > -3$ (c) $x < 3$ (d) $x < -3$

Question 2 : Answer the following questions :

1. A trapezium with an area of 280 square feet and a height of 10 feet.
   If the length of one of its parallel bases is 22 feet , then find the length of its other base

$$A = \frac{1}{2}(b_1 + b_2) \times h$$
$$280 = \frac{1}{2}(b_1 + 22) \times 10$$
$$b_1 + 22 = \frac{280}{5} = 56$$
$$b_1 = 56 - 22 = 34$$

The length of the other base = 34 feet .

2 Find the solution set for the following equation in z :
$3x^2 - 2 = 10$

$$3x^2 - 2 = 10$$
$$3x^2 = 10 + 2 = 12$$
$$x^2 = \frac{12}{3} = 4$$
$$x = \sqrt{4} = \pm 2$$
$$\text{the solution set} = \{2, -2\}$$

3 Simplify to the simplest form : $\frac{x^{-3} \times x^5 \times (-x)^4}{x^2 \times x^{-4} \times x^6}$, then find the numerical value when $x = 2$

$$\frac{x^{-3} \times x^5 \times (-x)^4}{x^2 \times x^{-4} \times x^6} = \frac{x^4 \times x^5 \times x^4}{x^3 \times x^2 \times x^6}$$
$$\frac{x^{4+5+4}}{x^{3+2+6}} = \frac{x^{13}}{x^{11}} = x^{13-11} = x^2$$

The numerical value $= (2)^2 = 4$

4 Find the solution set for the following inequality in Q ?
$2(x + 1) \leq 5(x - 4)$

$$2x + 2 \leq 5x - 20$$
$$2x - 5x \leq -20 - 2$$
$$-3x \leq -22$$
$$x \geq \frac{-22}{-3}$$
$$x \geq \frac{22}{3}$$
$$\text{the solution set} = \left\{x : x \in Q, x \geq \frac{22}{3}\right\}$$

5 Simplify to the simplest form : $\sqrt{\frac{4}{25}} + \left(\frac{-3}{2}\right)^0 + \sqrt[3]{\frac{27}{125}}$

$$\frac{2}{5} + 1 + \frac{3}{5}$$

$$\frac{2}{5} + \frac{5}{5} + \frac{3}{5} = \frac{2+5+3}{5}$$

$$\frac{10}{5} = 2$$

6 If the expression $(x^2 + x - m)$ is divided by $(x + 4)$, then find the value of m ?

$$\begin{array}{r|l} & x - 3 \\ \hline x + 4 & x^2 + x - m \\ & -\ x^2 + 4x \\ \hline & -3x - m \\ & -3x - 12 \\ \hline & -m + 12 \end{array}$$

$\therefore -m + 12 = 0$

$\therefore m = 12$

7 The total (surface)area of a cube is 1.350 square centimeters find its edge lengths

Let the edge length = S

The total surface area of cube

$$6s^2 = 1.350$$

$$s^2 = \frac{1.350}{6} = 225$$

$$S = \sqrt{225} = 15$$

The edge length of the cube = 15 cm

Model (5)

Question 1 : Choose the correct answer :

1 If $x - 2 < 5$, then which of the following could be the value of x ?

(a) 6 (b) 7 (c) 8 (d) 9

2 A cube has a volume of x^6 , then what is the length of it's the edge ?

(a) x (b) x^2 (c) x^3 (d) $6x^3$

3 The multiplicative inverse of $(-3)^2$ is .....

(a) 3^2 (b) -3^2 (c) $\frac{1}{9}$ (d) $(-2)^3$

4. If $m = 2n$, then $(4)^{m-2n}$ …

(a) $m - 2n$ (b) 4 (c) **1** (d) 0

5. What is the quotient of $(x^2 - 10x + 25)$ divided by $(x - 5)$?

(a) $x + 5$ (b) **$x - 5$** (c) $x + 10$ (d) $x - 10$

6. $(-3a^2b)(2ab)(-6a) = \cdots$

(a) $-36a^4b^2$ (b) **$36a^4b^2$** (c) $-7a^3b^2$ (d) $36a^4b^2c$

7. A trapezium with a height of 5cm and the lengths of its middle base is 9cm , What is the area ?

(a) 45 (b) **225** (c) 50 (d) 14

8. Which of the following inequalities has one of its solutions is $x = -3$ *in* Q ?

(a) $-x > 3$ (b) $x \geq 2$ (c) $x > -3$ (d) **$-x > -3$**

9. If a and b are the square roots of the number c , then what is the value of $a + b$?

(a) $2a$ (b) $2b$ (c) 1 (d) ***zero***

Question 2 : Answer the following questions :

1. If $(\boldsymbol{2x + 3})$ is a factor of expression $(\boldsymbol{2x^2 - 15 - 7x})$, then find the other factor

The other factor is $(\boldsymbol{x - 5})$

$$\begin{array}{r|l} & x - 5 \\ \hline 2x + 3 & 2x^2 - 7x - 15 \\ & -2x^2 + 3x \\ \hline & -10x - 15 \\ & -10x - 15 \\ \hline & 0 \quad 0 \end{array}$$

2. Find the length of the diagonal of the square whose area equal to the area of rhombus with diagonal length of 4 meters and 16 meters

The area of the rhombus $= \frac{1}{2} \times d_1 \times d_2$

$$= \frac{1}{2} \times 4 \times 16 = 32m^2$$

The area of square $= 32m^2$

The area of the square $= \frac{1}{2}d^2 = 32$

$$d^2 = 32 \div \frac{1}{2} = 64$$

$$d = \sqrt{64} = 8$$

The diagonal lengths of the square = 8 m

3 Simplify to its simplest form : $(x-y)^2-x^2$, then find the numerical value of the result when $x=-1 \ \ and \ y=2$

$$(x-y)^2-x^2 = x^2-2xy+y^2-x^2$$
$$= y^2-2xy$$

The numerical value when $x=-1 \ and \ y=2$

$$(2)^2-2(-1)(2)=4+4=8$$

4 Find the quotient : $\frac{3ab^2+9a^2b-6a^2b^2}{3ab}$?

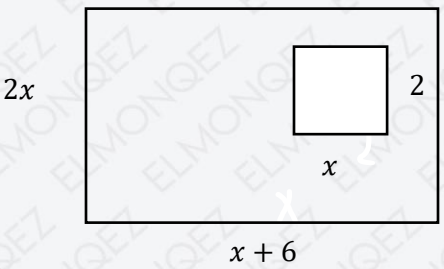
$$\frac{3ab^2}{3ab}+\frac{9a^2b}{3ab}+\frac{6a^2b^2}{3ab}$$
$$= b+3a-2ab$$

5 Write the result of the following in scientific notation :
$(2.14\times10^5)+(5.4\times10^4)$

$$(2.14\times10^5)+(5.4\times10^4)$$
$$(2.14+5.4)\times10^4$$
$$=26.8\times10^4=2.68\times10^5$$

6 A square with a side length of $(x+4)$ length units .
Calculate its surface area in terms of x
The area of the square = S^2
$$=(x+4)^2=x^2+8x+16 \text{ square units}$$

7 Find in the simplest form the algebraic expression that represents the area of the shaded part



the area of the shaded part = $(2x)(x+6)-2x$
$$2x^2+12x-2x$$
$$=2x^2+10x \text{ square units}$$