GRADE: 7

SUBJECT: MATHEMATICS

WORKSHEET -1

Choose the correct answer from the given options:

1) The exponential form of 3125 is

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

2) The coefficient of x in $-8xy^2$ is _____

(a) -8　　　　(b) $8y^2$　　　　(c) $-8y^2$　　　　(d) none

3) The standard form of 3, 07,000 km is

(a) 3.7×10^4　　(b) 37.0×10^5　　(c) 3.007×10^5　　(d) 3.07×10^5

4) The value of $3° \times 4° \times 5°$ is ………..

(a) 60　　　　(b) 0　　　　(c) 1　　　　(d) 3

5) How many terms are there in the expression 12ab −24b +36a

(a) 1　　　　(b) 2　　　　(c) 3　　　　(d) 4

6) The like term to $-6a^3bc$ is:
(a) $4a^2b^2c$　　　b) 5abc　　　c) $2a^3bc$　　　d) a^2bc^2

7) The value of $(-1)^2$ is
   (a) 0   (b) -1   (c) 1   (d) None of these

8) $(3^4)^5$ when expressed as a single exponent is
   (a) 3^9 (b) 3^1 (c) 3^{20} (d) 3^5

9) $\frac{3}{8}$ x $\frac{3}{8}$ x $\frac{3}{8}$ x $\frac{3}{8}$ in power notation is _____.

10) Write the next three terms of the pattern 1, 4, 9, _____.

Solve the following:

11) Express 729 x 125 as a product of prime factors in the exponential form.

12) Find the value of $(8^0 - 2^0) + (8^0 + 2^0)$

13) Simplify: (i) $\left(\frac{3^5}{3^2}\right)$ x 3^{10}

           (ii) $8^2 \div 2^3$

14) Evaluate: $\dfrac{5^4 \text{ x } 7^5 \text{ x } 2^9}{8 \text{ x } 49 \text{ x } 5^2}$

15) If $a = 2$, $b = -2$, find the value of $(2ab + 2ab^2 + ab)$

16) $(25)^2 \times 125 = 5^{4n-1}$

17) Subtract $(2x^2 - 5x + 7)$ from $(3x^2 + 4x - 6)$

18) What should be added to $7x^3 - 3x^2 + 6x + 4$ to get $x^3 - 5x^2 - x + 1$

19) What is the sum of $(4x^3y + y^3z - 8z^3x + 12)$, $(4x^3y + 5y^3z - 3z^3x + 14)$,
    and $(7x^3y + 4y^3z - 2z^3x + 16)$.

20) Draw a factor tree for the expression $2x + 5 - 4x^2$. Label the terms and factors.

21) Write 2 like terms and 2 unlike terms for the expression: $6x^2y^2$

22) Sia has a certain number of apples. Ria has five less than thrice the number of apples Sia has. Form an algebraic expression for the total number of apples, they have together.

23) Write algebraic expressions for the following statements:
    (a) 10 added to the sum of two numbers.
    (b) Square of a number decreased by 6.

24) Simplify: $\frac{3^5}{3^2}$ x 3^{10}

25) What is the sum of $(3x^2 - 7x - 8)$, $(x^2 + 8x - 3)$ and $(-5x^2 - 3x + 2)$?

WORKSHEET -2

1. Choose if True or False.

A. The sum of the measures of all sides of a triangle is always 180 cm.

B. The sum of two sides of a triangle is always greater than the third side.

C. The sum of the two sides of a triangle is always less than the third.

D. The product of a number and its additive inverse is 1.

E. The sum of a number and its additive inverse is 0.

2. Can a triangle be constructed with lengths of three sides as 5 cm, 11 cm, and 4 cm? Give a reason to your answer.

3. What number should be subtracted from -0.6 to get $-1\frac{1}{6}$

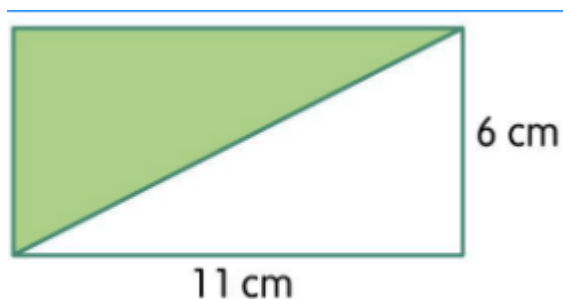4. What number should be added to $-\frac{5}{8}$ to get -2.3

Solve the following:

5. Solve

$(2\frac{7}{12}) \times (-4\frac{3}{4})$

$(-35.25) \div (-11\frac{3}{4})$

6. Find the area of the shaded region enclosed in the rectangle

7. Add or subtract the rational numbers

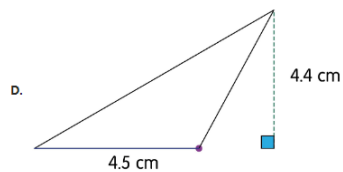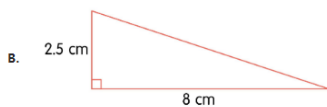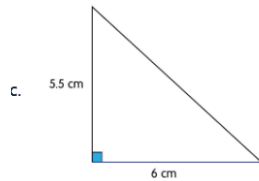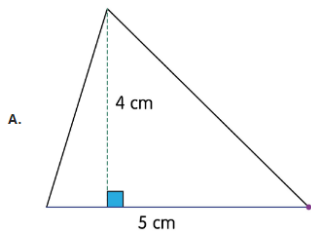   a. $7.3 + (-4\frac{1}{2})$

   b. $(-8) + (-\frac{8}{10})$

   c. $(-5\frac{3}{10}) - (7\frac{1}{2})$

8. Construct triangles with the given measurements.

   $\triangle XYZ$ where $\angle X = 70°$, $\angle Z = 40°$, and XZ = 2.2 cm

9. The bottom of a water tank is triangular, with a base of 512 cm and height = 300 cm. It is covered with tiles that cost $7.8 per sq. m. Find the total cost incurred in the tiling.

10. Choose the triangles that have the same area.

A.
4 cm
5 cm

C.
5.5 cm
6 cm

B.
2.5 cm
8 cm

D.
4.4 cm
4.5 cm

11. Choose the correct length of the sides that we can use to construct a triangle.

   A. PQ = 3 cm, QR = 4 cm, PR = 8 cm
   B. AB = 6 cm, BC = 3 cm, CA = 9 cm
   C. QR= 5, PQ = 3 cm, PR = 3.5 cm
   D. PQ = 3 cm, PR = 2 cm, QR = 6 cm

12. Match each expression with its correct answer.

Options	Answers
A. $(-4\frac{2}{4}) \times (-2.5)$	$1\frac{8}{10}$
B. $4\frac{2}{4} \div 2.5$	$11\frac{1}{4}$
C. $4\frac{2}{4} + 2.5$	7
D. $-4\frac{2}{4} - 2.5$	-7

13. Find the area of a triangle with a height of 6 cm and base measurement of 24cm.

14. Arrange the steps of construction in the correct order to get △MNO where MN = 4 cm, ∠∠N = 60°, and NO = 4.4 cm.

   A.Draw an arc of 4 cm from N intersecting the arm of the angle at M.

   B.Join M and O to get the triangle.
   C.Draw a line segment of length 4.4 cm and label it as NO.
   D.Draw an angle of 60° at vertex N, and extend the ray.