

Rosary School \ Marj Elhamam

Name : ANSWER KEY

Date : / 10 / 2025

Subject: Practice worksheet(3) /unit (2)

Grade : 6 ()

2.1 Rules of Divisibility

Q1: Answer the Following questions and explain your answer.

a. Is 248 divisible by 2? Yes, Last digit 8 is even

b. Is 515 divisible by 5? Yes, Last digit is 0 or 5

c. Is 395 divisible by 3? No, Sum of digits is 17

d. Is 811 divisible by 4? No, Last two digit is 11

e. Is 666 divisible by 9? Yes

f. Is 902 divisible by 10? No, it ends with 2

g. Is 72 divisible by 2 and 3? Yes

Q2: Write a number divisible by 3, 4 and 5. 60

Q3: Draw a ring around the numbers that are divisible by 9?

63

72

95

108

123

Q4: A box of 185 oranges must be shared equally among 10 students.

Can it be divided evenly? $185 \div 10 = 18.5$

* No, it cannot be divided evenly.

Q5: A company prints 2,160 flyers. Can they pack them into boxes of 8 without leftovers?

No Leftover, $2160 \div 8 = 270$ boxes.

2.2 Factors, Multiples, and Primes

Q1: List all factors of 24. 1, 2, 3, 4, 6, 8, 12, 24

Q2: List all factors of 42. 1, 2, 3, 6, 7, 14, 21, 42

Q3: List the first 5 multiples of 8. 8, 16, 24, 32, 40

Q4: Write all prime numbers between 20 and 50. 23, 29, 31, 37, 41, 43, 47

Q5: Is 91 a prime number? Explain why.

No $\rightarrow 91 = 7 \times 13$; factors: 1, 7, 13, 91

Q6: Work out the **HCF** of 18 and 24.

$$\text{HCF} = 6$$

Q7: Work out the **LCM** of 6 and 9.

$$\text{LCM} = 18.$$

Q8: Work out the **HCF** and **LCM** of 10 and 25.

$$\text{HCF} = 5$$

$$\text{LCM} = 50$$

Q9: Leen has 15 red balloons and 25 blue balloons. She wants to pack them equally. What is the greatest number of packs she can make?

HCF between 15, 25

* HCF = 5 packs.

$$\left. \begin{array}{l} * 15 \div 5 = 3 \text{ red.} \\ * 25 \div 5 = 5 \text{ blue.} \end{array} \right\}$$

Q10: A bus stops every 12 minutes and a train every 18 minutes. After how many minutes will be the first meeting at the station?

→ LCM 12 and 18
→ LCM = 36 minutes.

2.3 Positive and Negative Numbers

Q1: Arrange the following numbers in ascending order:

-8 3 -6 0 9 -1

-8, -6, -1, 0, 3, 9

Smallest

Q2: Work out.

a. $8 + -10 =$ -2 f. $+2x + 4 =$ 8

b. $-14 - -6 =$ -8 g. $-6x + 3 =$ -18

c. $-9 + 11 =$ 2 h. $+8x - 2 =$ -16

d. $-6 - 7 =$ -13 i. $-7x - 5 =$ 35

e. $5 - -3 =$ 8 j. $-10x + 6 =$ -60

Q3: Compare: -5 < -2

Q4: Draw a ring around the smallest number:

-2 -8 -12 3 0

Q5: A submarine is 90 m below sea level. It rises by 40 m. What is its new depth?

$$-90 + 40 = -50 \text{ m}$$

Q6: The temperature was -6°C and rose by 10°C . What is the new temperature?

$$-6 + 10 = 4^{\circ}\text{C}$$

Q7: An elevator starts at floor 0, goes down 5 floors, then up 8 floors. What floor is it on?

$$-5 + 8 = 3 \rightarrow \text{on Floor } \underline{\underline{3}}.$$

Q8: A freezer temperature is -15°C . If it increases by 9°C , what is the new temperature?

$$-15 + 9 = -6^{\circ}\text{C}.$$

2.4 Squares and Square Roots

Q1: Work out.

a. $6^2 = \underline{36}$

b. $0.7^2 = \underline{0.49}$

c. $\sqrt[2]{81} = \underline{9}$

d. $\sqrt[2]{64} = \underline{8}$

e. $\sqrt[2]{100} \times \sqrt[2]{25} = \underline{10 \times 5 = 50}$ f. $\sqrt[2]{144} = \underline{12}$

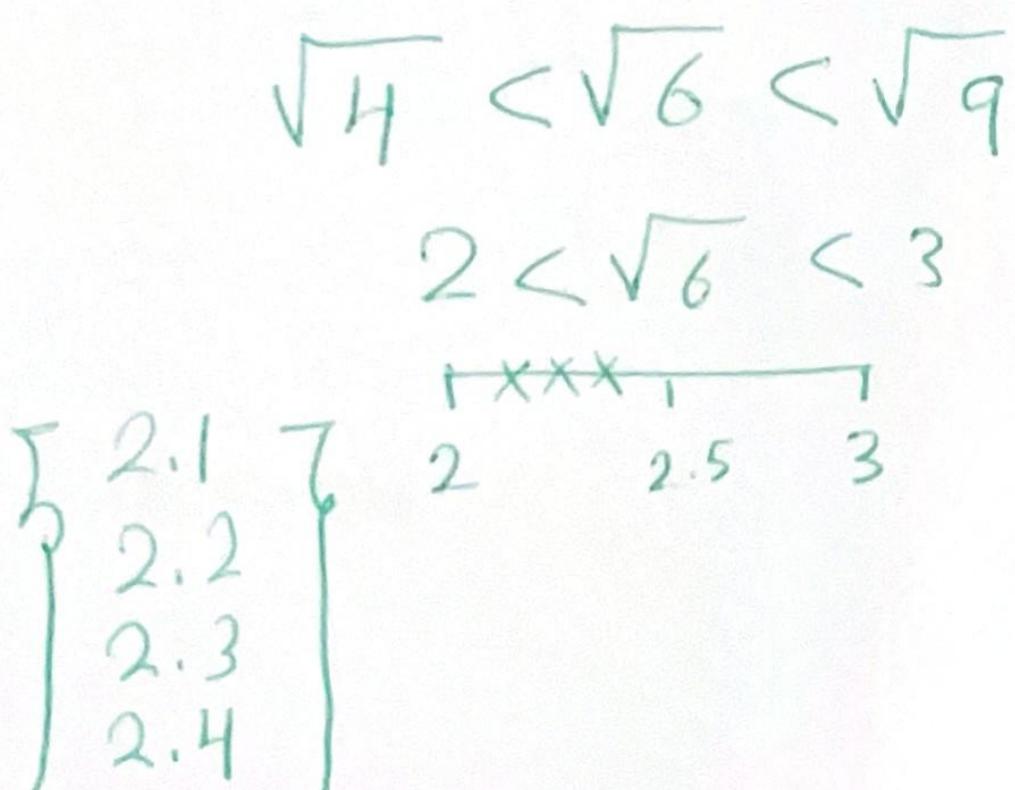
Q2: A square garden has a side length of 15 m. Find its area.

$$\begin{aligned} A &= s^2 \\ &= 15^2 \\ &= 225 \text{ m}^2 \end{aligned}$$

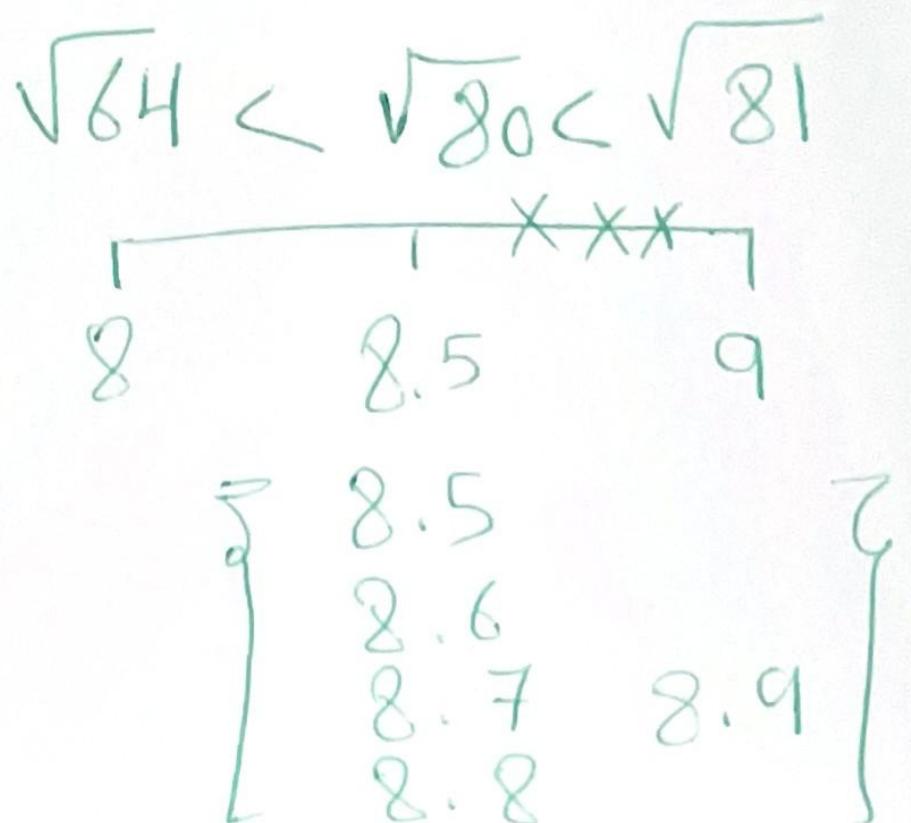
Q3: The area of a square is 49 cm^2 . Find the length of one side.

$$\sqrt{49} = 7 \text{ cm}$$

Q4: Estimate: a. $\sqrt[2]{6} \approx$



b. $\sqrt[2]{80} \approx$



2.5 More Powers and Roots.

Work out.

a. $8^2 + 0.3^2 = \underline{64.09}$

b. $10^2 - 6^2 = \underline{100 - 36 = 64}$

c. $(5 + 2)^2 = \underline{7^2 = 49}$

d. $\sqrt[3]{64} = \underline{4}$

e. $\sqrt[3]{-27} = \underline{-3}$

f. $5 \times \sqrt[3]{125} - 15 = \underline{5 \times 5 - 15 = 10}$

g. $4 \times \sqrt[3]{8} = \underline{4 \times 2 = 8}$

h. $\frac{\sqrt[2]{81}}{3} - 4 = \underline{\frac{9}{3} - 4 = -1}$

j. $7 \times 2^3 = \underline{7 \times 8 = 56}$

l. $\sqrt[3]{216} = \underline{6}$

k. $3^3 + 5^3 = \underline{27 + 125 = 152}$

2.6 calculations.

$$* \sqrt[3]{27} - 3 = 3 - 3 = 0$$

$$* \sqrt{16} + 3 = 4 + 3 = 7$$

$$* \sqrt{25} - \sqrt[3]{8} = 5 - 2 = 3$$

Q1: Write these calculations in ascending order:
 $\sqrt{16} + 3$, $\sqrt{25} - \sqrt[3]{8}$, $\sqrt[3]{27} - 3$.

$$\sqrt[3]{27} - 3, \sqrt{25} - \sqrt[3]{8}, \sqrt{16} + 3$$

Smallest

Q2: Write these calculations in descending order:
 $\sqrt{64} - \sqrt[3]{27}$, $\sqrt{49} + 1$, $\sqrt{36} - 3$.

$$* \sqrt{64} - \sqrt[3]{27} = 8 - 3 = 5$$

$$* \sqrt{49} + 1 = 7 + 1 = 8$$

$$* \sqrt{36} - 3 = 6 - 3 = 3$$

$$\sqrt{49} + 1, \sqrt{64} - \sqrt[3]{27}, \sqrt{36} - 3$$

Largest

Q3: Work out.

a. $4(8 - 2) = \underline{4 \times 6 = 24}$

e. $(-2)^3 = \underline{-8}$

b. $(10 - 5)^2 = \underline{5^2 = 25}$

c. $(2 + 3 \times 2)^2 = \underline{8^2 = 64}$

f. $\sqrt{49} + 3 \times 5 = \underline{7 + 15 = 22}$

d. $(15 \div 3 + 6)^2 = \underline{11^2 = 121}$

h. $\sqrt{90 + 2 \times 5} = \underline{\sqrt{100} = 10}$