

**N3CS19****Practice Set 22**

Instructions: Answer each question on loose leaf, quad-ruled (graph paper), headed properly and written in lead-graphite. Remember to fold paper along the center, work exercises in order top to bottom, left column then right column. Staple multiple pages



- 1) Simplify the expression  $2 + 6(x + 3)$
- 2) Simplify the expression  $3x - (3 + x)$
- 3) Simplify the expression  $x - 4(2x - 3) - 5$
- 4) Determine the value of the unknown that makes the statement true:  $x - 4.7 = -2.3$
- 5) Determine the value of the unknown that makes the statement true:  $-\frac{3b}{2} = \frac{12}{5}$
- 6) Determine the value of the unknown that makes the statement true:  $8 - \frac{3}{4}w = 2$

7) Lockheed-Martin's Mars Insight spacecraft cost \$828 million. LeBron James' salary with the Lakers is \$153.3 million. How many times larger is the cost of the Insight spacecraft to LeBron's Laker salary? Express your solution in scientific notation and standard form, rounded to the nearest 100th.



8) Is  $\sqrt{12}$  between 0 and 4 on a number line? Justify with evidence.

9) Evaluate the expression  $(-4 \cdot 2)^{-2}$

10) Simplify the expression  $\frac{x^{-2}y^3z^5}{x^{-2}y^{-3}z^{-4}}$

11) Select *all* possible values for the unknown that make the equation true:  $x^2 = 48$

- A)  $\sqrt{48}$       B)  $24\sqrt{2}$       C)  $-4\sqrt{3}$       D)  $-16\sqrt{3}$

12) The Earth is about  $149.6 \times 10^6 \text{ km}$  from Sol (the Sun); Mars is about  $227.9 \times 10^6 \text{ km}$  from Sol. Use these values to determine the distance between the Earth and Mars; express your solution in Scientific Notation and Standard Form.

13) Determine the value(s) of the unknown that make the statement true:  $n^2 - 1 = 35$

14) A cube has a surface area of  $384 \text{ cm}^2$ ; determine the cube's volume.

15) What value of  $k$  makes this equation true?  $\frac{5 \cdot 5^k}{5^{-8}} = 5^3$

16) An object of with a mass of  $4 \text{ kg}$  has kinetic energy of  $196 \text{ J}$ ; using the equation

$196 = \frac{1}{2}mv^2$ , determine the object's velocity.

