

NAME: Keyü

UNIT 1 – QUIZ #2 STUDY GUIDE



PART ONE: Solve the equations completely.

1. $2x + 5 - 6x = 21$

$$-4x + 5 = 21$$

$$-4x = 16$$

$$\boxed{x = -4}$$

3. $17 - 4x = -8x - 7$

$$17 + 4x = -7$$

$$4x = -28$$

$$\boxed{x = -7}$$

5. $-3 + 12f = 3(3 + 2f)$

$$-3 + 12f = 9 + 6f$$

$$-3 + 6f = 12$$

$$6f = 15$$

$$\boxed{f = 2.5}$$

7. $-2(4y + 1) = -8y - 2$

$$-8y - 2 = -8y - 2$$

$$-2 = -2$$

\mathbb{R} all real solutions

2. $-33 = 3 + 12y - 3y - 3y$

$$-33 = 3 + 6y$$

$$-36 = 6y$$

$$\boxed{y = -6}$$

4. $5(1 + 3x) = 2(5x + 15)$

$$5 + 15x = 10x + 30$$

$$5x = 25$$

$$\boxed{x = 5}$$

6. $-4(n + 2) = 8 - 2n$

$$-4n - 8 = 8 - 2n$$

$$-2n = 16$$

$$\boxed{n = -8}$$

8. $3(5x + 2) = 15x$

$$15x + 6 = 15x$$

$$6 = 0$$

\emptyset
No solution

On a scale of 1-5 (One = Need to Study 5 = I can teach this stuff!!), how do you feel about solving equations?

1

2

3

4

5

PART TWO: Solve the following proportions.

$$9. \frac{3}{5} = \frac{x}{35}$$

Handwritten solution: Cross-multiplication arrows labeled $\times 7$ lead to $x = 21$.

$$10. \frac{36}{y} = \frac{6}{11}$$

Handwritten solution: Cross-multiplication arrows labeled $\times 6$ lead to $y = 66$.

$$11. \frac{9}{7} = \frac{x}{2}$$

Handwritten solution: $18 = 7x$ leads to $x = 18/7$.

$$12. \frac{2}{x} = \frac{10}{(x-4)}$$

Handwritten solution:

$$2(x-4) = 10x$$

$$2x - 8 = 10x$$

$$-8 = 8x$$

$$x = -1$$

$$13. \frac{-5}{7} = \frac{-x}{2x-3}$$

Handwritten solution:

$$-5(2x-3) = -7x$$

$$-10x + 15 = -7x$$

$$15 = 3x$$

$$x = 5$$

PART THREE: Write the sentence as a proportion then solve.

14. 24 is to x as 16 is to 2.

Handwritten solution:

$$\frac{24}{x} = \frac{16}{2}$$

$$x = 3$$

PART FOUR: Ratio Word Problem

15. Luke bought 32 kiwi fruit for \$16. How many kiwi fruit can you buy if you only have \$4?

Handwritten solution:

Kiwi	→	32	=	x
\$	→	16	=	4

Arrows indicate cross-multiplication, with a label $\times 4$ under the bottom row.

Handwritten solution:

$$x = 8 \text{ Kiwi fruit}$$



On a scale of 1-5 (One = I need to study 5 = I can teach this stuff!!), how do you feel about ratios and proportions?

1

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4

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