Name: Key

Unit 2B: Equations Study Guide

Test Date: THURSDAY, NOVEMBER 8th

ONE-STEP EQUATIONS. SOLVE. SHOW ALL WORK FOR FULL CREDIT!

$x - 5.6 = 1.2$

$+5.6 \quad +5.6$

$x - 0 \quad 6.8$

$\boxed{x = 6.8}$

$3 \times \frac{x}{3} = 8 \times 3$

$\boxed{x = 24}$

$\frac{-2x}{-2} = \frac{-6}{-2}$

$\boxed{x = 3}$

$\frac{2}{3} \div \frac{2}{3}x = \frac{8}{1} \div \frac{2}{3}$

KCF

$\frac{8}{1} \times \frac{3}{2} = \frac{24}{2}$

$\boxed{x = 12}$

TWO-STEP EQUATIONS. SOLVE. SHOW ALL WORK FOR FULL CREDIT!

$2x + 6 = 8$

$-6 \quad -6$

$\frac{2x}{2} + 0 \quad \frac{2}{2}$

$\boxed{x = 1}$

$-4x - 9 = -3$

$+9 \quad +9$

$\frac{-4x}{-4} - 0 \quad \frac{6}{-4} = -\frac{3}{2}$

$\boxed{x = -\frac{3}{2} \text{ or } -1.5}$

$-\frac{2}{3}x + 6 = -1$

$-6 \quad -6$

$-\frac{2}{3}x + 0 \quad -7 \div -\frac{2}{3}$

$\div -\frac{2}{3}$

$-\frac{7}{1} \times -\frac{3}{2} = \frac{21}{2}$

$X = \frac{21}{2}$ or 10.5

$4 + \frac{1}{5}x = -1$

$-4 \quad -4$

$0 + \frac{1}{5}x \quad -\frac{5}{1} \div \frac{1}{5}$

$\div \frac{1}{5}$

KCF

$-\frac{5}{1} \times \frac{5}{1}$

$X = -25$

$2r - 3.1 = 1.7$

$+3.1 \quad +3.1$

$\frac{2r}{2} - 0 \quad \frac{4.8}{2}$

$r = 2.4$

$\frac{x}{2} + 12 = -16$

$-12 \quad -12$

$2 \times \frac{x}{2} + 0 \quad -28 \times 2$

$X = -56$

$\frac{2}{5}x + 3 = 28$

$-3 \quad -3$

$\frac{2}{5}x + 0 \quad \frac{25}{1} \div \frac{2}{5}$

$\div \frac{2}{5}$

K C F

$\frac{25}{1} \times \frac{5}{2}$

$X = \frac{125}{2}$ or 62.5

$0.80x - 1.0 = 0.60$

$+1.0 \quad +1.0$

$\frac{0.80x}{0.8} + 0 \quad \frac{1.60}{0.8}$

$X = 2$

DISTRIBUTE & SOLVE EQUATIONS. SOLVE. SHOW ALL WORK FOR FULL CREDIT!

$3(2x + 5) = 59$

$6x + 15 = 59$

$-15 \quad -15$

$\frac{6x + 0}{6} = \frac{44}{6}$

$x = \frac{22}{3}$ or $7.\overline{3}$

$2(6x - 1) = -38$

$12x - 2 = -38$

$+2 \quad +2$

$\frac{12x - 0}{12} = \frac{-36}{12}$

$x = -3$

$-2(5 + 6x) = 110$

$-10 - 12x = 110$

$+10 \quad +10$

$\frac{0 - 12x}{-12} = \frac{120}{-12}$

$x = -10$

$\frac{1}{2}(4x + 8) = 28$

$\frac{4}{2}x + \frac{8}{2} = 28$

$2x + 4 = 28$

$-4 \quad -4$

$\frac{2x + 0}{2} = \frac{24}{2}$

$x = 12$

$12 = -2(3 + x)$

$12 = -6 - 2x$

$+6 \quad +6$

$\frac{18}{-2} = \frac{0 - 2x}{-2}$

$-9 = x$

$6(2x - 5) = 54$

$12x - 30 = 54$

$+30 \quad +30$

$\frac{12x - 0}{12} = \frac{84}{12}$

$x = 7$

WORD PROBLEMS. WRITE AN EQUATION AND SOLVE. SHOW ALL WORK FOR FULL CREDIT!

The CMS band purchased new t-shirts and instruments. The cost for instruments was $520. T-shirts cost $20 per shirt. If the total cost of their purchase was $1000, how many uniforms did they buy?

VARIABLE: how many uniforms

EQUATION: $20x + 520 = 1000$

SOLVE.

$$20x + 520 = 1000$$
$$-520 \quad -520$$
$$\frac{20x}{20} + 0 \quad \frac{480}{20}$$
$$x = 24$$

24 uniforms

The hotel you are staying in, charges a fee of $15 for parking and $3per day to use the gym. If your total bill was $45, how many times did you go to the gym?

VARIABLE: how many times you go to the gym

EQUATION: $3x + 15 = 45$

SOLVE.

$$3x + 15 = 45$$
$$-15 \quad -15$$
$$\frac{3x}{3} + 0 \quad \frac{30}{3}$$
$$x = 10$$

You went to the gym 10 times

Timmy is having his birthday party at SkyZone. It costs $150 to rent a room and $13 per person. The total bill for the party was $371. How many friends did Timmy invite?

VARIABLE: how many friends

EQUATION: $13x + 150 = 371$

SOLVE.

$$13x + 150 = 371$$
$$-150 \quad -150$$
$$\frac{13x}{13} + 0 \quad \frac{221}{13}$$
$$x = 17$$

Timmy invited 17 friends