Algebra 1 ECA Remediation

Name Answer Key

ID: 1

Review Worksheet - Day 6

Simplify each expression.

1) $4(3x + 5)$

$12x+20$

2) $8n + 5(1 + 9n)$

$8n+5+45n$

$53n+5$

3) $-(5k - 8) + 5(k - 8)$

$-5K+8+5K-40$

-32

Solve each equation.

4) $8(5 + p) - 2p = 38 + 8p$

$40+8p-2p = 38+8p$

$40+6p = 38+8p$

$-6p \quad -6p$

$40 = 38+2p$

$40 = 38+2p$

$-38 \quad -38$

$\frac{2}{2} = \frac{2p}{2}$

$1 = p$

5) $-4.5(m - 2.75) - 6.2 = -10.355 - 7.4m$

$-4.5m+12.375-6.2 = -10.355-7.4m$

$-4.5m+6.175 = -7.4m-10.355$

$+7.4m \quad +7.4m$

$2.9m+6.175 = -10.355$

$-6.175 \quad -6.175$

$\frac{2.9m}{2.9} = \frac{-16.53}{2.9}$

$m = -5.7$

6) $\frac{(2n - 5)}{3} = \frac{(-2 - n)}{1}(3)$

$2n-5 = -6-3n$

$+3n \quad +3n$

$5n-5 = -6$

$+5 \quad +5$

$\frac{5n}{5} = \frac{-1}{5}$

$n = \frac{-1}{5}$

Find the mistake that was made when solving each equation. Explain why the work shown is incorrect. Solve each equation correctly.

7) $2(p + 5) = 34 - p$

$2p + 10 = 34 - p$

$p + 10 = 34$

$p = 24$

$2(p+5) = 34-p$

$2p+10 = 34-p$

$+p \quad +p$

$3p+10 = 34$

$-10 \quad -10$

$\frac{3p}{3} = \frac{24}{3}$

$p = 8$

Should have added p to both sides instead of subtracting p from both sides.

Solve each proportion.

8) $\frac{(x+4)}{8} = \frac{7}{9}$

$9(x+4) = 7(8)$

$9x + 36 = 56$

$-36 \quad -36$

$\frac{9x}{9} = \frac{20}{9}$ $\quad x = \frac{20}{9}$ OR $2.\overline{2}$

9) $\frac{6}{4} = \frac{n}{(n-3)}$

$6(n-3) = 4(n)$

$6n - 18 = 4n$

$-4n \quad -4n$

$2n - 18 = 0$

$+18 \quad +18$

$\frac{2n}{2} = \frac{18}{2}$

$n = 9$

Solve each equation for the indicated variable.

10) $V = \pi r^2 \cdot h$, solve for h

$\frac{V}{\pi r^2} = \frac{\pi r^2 \cdot h}{\pi r^2}$

$\frac{V}{\pi r^2} = h$

Solve each inequality.

11) $4(6v + 3) \geq -18 - 6v$

$24v + 12 \geq -18 - 6v$

$+6v \quad +6v$

$30v + 12 \geq -18$

$-12 \quad -12$

$\frac{30v}{30} \geq \frac{-30}{30}$

$v \geq -1$

12) $-6x + 8(x + 1) \geq 3(x + 4)$

$-6x + 8x + 8 \geq 3x + 12$

$2x + 8 \geq 3x + 12$

$-2x \quad -2x$

$8 \geq x + 12$

$-12 \quad -12$

$-4 \geq x$

Solve each compound inequality.

13) $33 \leq -10v + 3 \leq 73$

$33 \leq -10v + 3$

$-3 \quad -3$

$\frac{30}{-10} \leq \frac{-10v}{-10}$

$-3 \geq v$

$-10v + 3 \leq 73$

$-3 \quad -3$

$\frac{-10v}{-10} \leq \frac{70}{-10}$

$v \geq -7$

$-7 \leq v \leq -3$

Write an inequality that can be used to solve each problem, and solve the inequality.

14) Morgan spent \$13 on 5 pairs of socks

A. Write an inequality that can be used to determine the maximum number of pairs of socks that Morgan can purchase with \$10.

$\frac{\$13}{5}$ = unit price $\quad x$ = the # of pairs of socks purchased

$\$2.60 = 2.60x$

$2.60x \leq \$10$

B. What is the maximum number of pairs of socks that Morgan can buy with \$10?

$\frac{2.60x}{2.6} \leq \frac{10}{2.6}$ assume x is positive.

$x \leq 3.85$

Morgan can purchase 3 pairs of socks at most.

15) Oscar can rent a bike from Zach's Bike shop with a \$15 deposit plus an hourly fee. Oscar pays \$32.85 to rent a bike for 7 hours.

A. Write an inequality that can be used to determine how long you can rent a bike for with \$40.

h = hourly rate

$32.85 = 15 + 7h$

$-15 \quad -15$

$\frac{17.85}{7} = \frac{7h}{7}$

$h = \$2.55$

$40 \geq 15 + x(2.55)$

Cost = 32.85

hours = 7

\$15 deposit

x = # of hours rented

B. What is the maximum number of hours that a bike can be rented for with \$40?

$40 \geq 15 + 2.55x$

$-15 \quad -15$

$\frac{25}{2.55} \geq \frac{2.55x}{2.55}$

$9.80 \geq x$

Oscar can rent the bike for 9 hours.