Honors Algebra 1 Name KEY ID: 1

Chapter 2 Practice Test (2023)

Date _____ Period ____

Word Problems. Write the Key Info. Define the variable. Give the Proportion Equation. Answer in words. (10 pts)

1) WP: SEE Review handout with word problems on page 2.

Name the set or sets to which each number belongs. W=whole number; I=integer; R=rational; IRR=irrational (2pts each)

2) $\sqrt{81}$ RAT, W, I

3) 3.25 RAT

4) 0 RAT, W, I

5) $\sqrt{68}$ IRRAT.

6) $-\sqrt{49}$ RAT, I

7) π IRRAT.

Identify parts of an expression (2pts each)

8) $-2x^2 - 9x + 1 - x^2 + x - 2$

terms: $-2x^2, -9x, 1, -x^2, x, -2$

like terms: $1, -2$ | $-9x, x$ | $-2x^2, -x^2$

coefficients: $-2, -9, -1, 1$

constant terms: $1, -2$

Simplify each expression. Clearly show work. Write expressions in STANDARD form (6pts each)

Variable Term 1st THEN CONSTAN

9) $-1 + 7x - 10 + 9 - x$

$6x - 2$

10) $1 - 2x + x + 10$

$-x + 11$

11) $-6 - 4(-8 - 3n)$

$-6 + 32 + 12n$

$12n + 26$

12) $8 - 9(-5n - 8)$

$8 + 45n + 72$

$45n + 80$

13) $-7x - (x + 5)$

$-7x - x - 5$

$-8x - 5$

14) $-4(5x + 6) + 9 + 5x$

$-20x - 24 + 9 + 5x$

$-15x - 15$

15) $-6(10x + 7) + 9(1 - 3x)$

$-60x - 42 + 9 - 27x$

$-87x - 33$

16) $8(10 - 4x) - (1 - 6x)$

$80 - 32x - 1 + 6x$

$-26x + 79$

17) $-9(-4 + 3x) - 9(4x - 6)$

$+36 - 27x - 36x + 54$

$-63x + 90$

Solve and check each proportion equation. Clearly show work (6pts each)

18) $\frac{x}{3x-6} = \frac{4}{9}$

$4(3x-6) = 9x$

$12x - 24 = 9x$

$-12x \quad -12x$

$-24 = -3x$

$\frac{-24}{-3} = \frac{-3x}{-3}$

$x = 8$

C: $\frac{8}{3(8)-6} = \frac{4}{9}$

$.4\overline{4} = .4\overline{4}$ ✓

19) $-\frac{9}{8} = \frac{2x+10}{x}$

put the − SIGN WITH EITHER NUM OR DEN

$8(2x+10) = -9x$

$16x + 80 = -9x$

$-16x \quad -16x$

$80 = -25x$

$\frac{80}{-25} = \frac{-25x}{-25}$

$x = -3.2$

C: $-\frac{9}{8} \quad \frac{2(-3.2)+10}{-3.2}$

$-1.125 = -1.125$ ✓

TIP:
Do the check!
Show these steps.
IF IT DOES NOT CHECK, GO TO NEXT PROBLEM + come BACK TO FIND YOUR MISTAKE

20) $\frac{6}{5n-6} = \frac{2}{n+4}$

$2(5N-6) = 6(N+4)$

$10N - 12 = 6N + 24$

$-6N \quad -6N$

$4N - 12 = 24$

$+12 \quad +12$

$4N = 36$

$\frac{4N}{4} = \frac{36}{4}$

$N = 9$

C: $\frac{6}{5(9)-6} = \frac{2}{9+4}$

$0.154 = 0.154$ ✓

21) $\frac{2x-5}{5} = \frac{3x+3}{7}$

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

$15x + 15 = 14x - 35$

$-14x \quad -14x$

$x + 15 = -35$

$-15 \quad -15$

$x = -50$

C: $\frac{2(-50)-5}{5} = \frac{3(-50)+3}{7}$

$-21 = -21$ ✓

Solve and check each equation. Clearly show work (6pts each)

22) $10(x - 11) - 8x = -38 - 10x$

$10x - 110 - 8x = -10x - 38$

$2x - 110 = -10x - 38$

$+10x \quad +10x$

$12x - 110 = -38$

$+110 \quad +110$

$\frac{12x}{12} = \frac{72}{12}$

$x = 6$

C: $10(6 - 11) - 8(6) = -38 - 10(6)$

$-50 - 48 = -38 - 60$

$-98 = -98$ ✓

23) $-8(6x + 8) + 5 = 11x - 59$

$-48x - 64 + 5 = 11x - 59$

$-48x - 59 = 11x - 59$

$+48x \quad +48x$

$-59 = 59x - 59$

$+59 \quad +59$

$\frac{0}{59} = \frac{59x}{59}$

$x = 0$

C: $-8(6 \cdot 0 + 8) + 5 = 11(0) - 59$

$-64 + 5 = -59$

$-59 = -59$ ✓

24) $-6(x - 6) = 56 - 2x$

$-6x + 36 = -2x + 56$

$+6x \quad +6x$

$36 = 4x + 56$

$-56 \quad -56$

$\frac{-20}{4} = \frac{4x}{4}$

$x = -5$

C: $-6(-5 - 6) = 56 - 2(-5)$

$-6(-11) = 56 + 10$

$66 = 66$ ✓

25) $-51 - 5x = 10 - 8(x + 8)$

$-5x - 51 = 10 - 8x - 64$

$-5x - 51 = -8x - 54$

$+8x \quad +8x$

$3x - 51 = -54$

$+51 \quad +51$

$\frac{3x}{3} = \frac{-3}{3}$

$x = -1$

C: $-51 - 5(-1) = 10 - 8(-1 + 8)$

$-51 + 5 = 10 - 8(7)$

$-46 = 10 - 56$

$-46 = -46$ ✓