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Precalc

Name_____ ID: 1

Essential Skills: Alegebra

Date_____ Period____

Solve each equation.

1) $63 = 3(3 - 3x)$

$63 = 9 - 9x$

$-9 \quad -9$

$54 = -9x$

$\frac{54}{-9} = \frac{-9x}{-9}$

$\boxed{x = -6}$

2) $2(1 + 3k) = -2(-5k - 1)$

$2 + 6k = 10k + 2$

$-2 \qquad -2$

$6k = 10k$

$-6k \quad -6k$

$0 = 4k$

$\boxed{k = 0}$

Solve each equation by factoring.

3) $x^2 + x - 30 = 0$

$(x + 6)(x - 5) = 0$

-30

$6 \quad -5$

1

$x + 6 = 0 \qquad x - 5 = 0$

$\boxed{x = -6 \quad x = 5}$

4) $2n^2 + 6n = 0$

$2n(n + 3) = 0$

$2n = 0 \qquad n + 3 = 0$

$\boxed{n = 0 \quad n = -3}$

Solve each equation with the quadratic formula.

5) $v^2 - 1 = v$

$-v \quad -v$

$v^2 - v - 1 = 0$

$A=1 \quad B=-1 \quad C=-1$

$$\frac{-B \pm \sqrt{B^2-4AC}}{2A} \rightarrow \frac{-(-1) \pm \sqrt{(-1)^2-4(1)(-1)}}{2(1)}$$

$$\frac{1 \pm \sqrt{5}}{2}$$

Solve each equation. Remember to check for extraneous solutions.

6) $\sqrt{\frac{x}{2}} + 3 = 7$

$-3 \quad -3$

$\left(\sqrt{\frac{x}{2}}\right)^2 = (4)^2$

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

$x = 32$

Solve each equation.

7) $|n-2|+2=5$

$-2 \quad -2$

$|n-2|=3$

$+ \quad -$

$n-2=3 \quad n-2=-3$

$n=5 \quad n=-1$

Solve each inequality.

8) $-4(3x-4) \leq 88$

$-12x+16 \leq 88$

$-16 \quad -16$

$-12x \leq 72$

$-12 \quad -12$

$x \geq -6$

Solve each equation.

9) $5^{2x+3} = 25$

$5^{2x+3} = 5^2$

$2x+3=2$

$-3 \quad -3$

$\frac{2x}{2} = \frac{-1}{2}$

$x = -1/2$

Use substitution to find the x-coordinate of the solution to each system.

10) $3x + 4y = -7$

$y = 4x - 16$

$3x+4(4x-16)=-7$

$3x+16x-64=-7$

$19x-64=-7$

$19x=57$

$x=3$