Precalc Name_____ ID: 1

Essential Skills: Algebra Second OPTIONAL Prac

Date_____ Period____

Solve each equation.

1) $120 = -4(-6 - 4x)$

2) $5(4x + 3) - (1 + 6x) = 1 + 4x + x + 4$

Solve each equation by factoring.

3) $14p^2 + 11p + 2 = 0$

4) $8x^2 - 24x = 0$

Solve each equation with the quadratic formula.

5) $n^2 + 1 = 3n$

Solve each equation. Remember to check for extraneous solutions.

6) $2 = -4 + \sqrt{r - 7}$

Solve each equation.

7) $\frac{|r - 9|}{6} = 2$

Solve each inequality.

8) $-67 < -4(-3 + 4v) + 1$

Solve each equation.

9) $36^{n-2} = 216$

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

10) $y = 5x - 3$
$5x + 6y = -18$

1) $120 = -4(-6 - 4x)$

$120 = 24 + 16x$

$-24 \quad -24$

$96 = 16x$

$\frac{96}{16} = \frac{16x}{16}$

$x = 6$

2) $5(4x + 3) - (1 + 6x) = 1 + 4x + x + 4$

$20x + 15 - 1 - 6x = 1 + 4x + x + 4$

$14x + 14 = 5x + 5$

$-5x \quad -14 \quad -5x \quad -14$

$9x = -9$

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

$x = -1$

3) $14p^2 + 11p + 2 = 0$

mult

$p^2 + 11p + 28 = 0$

mult to...

28

7 × 4

11

add to...

$(x+7)(x+4) = 0$

$14 \quad 14$

$\left(x + \frac{1}{2}\right)\left(x + \frac{2}{7}\right) = 0$

$(2x+1)(7x+2) = 0$

$2x + 1 = 0$

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

$7x + 2 = 0$

$x = -\frac{2}{7}$

4) $8x^2 - 24x = 0$

$8x(x-3)=0$

$8x=0 \quad x-3=0$

$x=0 \quad x=3$

quad formula

$$x=\frac{-B\pm\sqrt{B^2-4AC}}{2A}$$

5) $n^2+1=3n$

$-3n \quad -3n$

$n^2-3n+1=0$

$Ax^2+Bx+C=0$

$A=1 \quad B=-3 \quad C=1$

$$x=\frac{-(-3)\pm\sqrt{(-3)^2-4(1)(1)}}{2(1)}$$

$$x=\frac{3\pm\sqrt{5}}{2}$$

6) $2=-4+\sqrt{r-7}$

$+4 \quad +4$

$(6)^2=(\sqrt{r-7})^2$

$36=r-7$

$+7 \quad +7$

$r=43$

7) $\dfrac{|r-9|}{6} = 2$

$6 \cdot \dfrac{|r-9|}{6} = 2 \cdot 6$

$|r-9| = 12$

$+ \quad -$

$r-9=12 \qquad r-9=-12$

$r=21 \qquad r=-3$

8) $-67 < -4(-3+4v)+1$

$-67 < 12-16v+1$

$-67 < -16v+13$

$-13 \qquad -13$

$-80 < -16v$

$-16 \qquad -16$

$5 > v$

or

more

conventionally

$v < 5$

9) $36^{n-2} = 216$

$(6^2)^{(n-2)} = 6^3$

$2(n-2) = 3$

$2n - 4 = 3$

$2n = 7$

$n = 7/2$

10) $y = 5x - 3$

$5x + 6y = -18$

$5x + 6(5x - 3) = -18$

$5x + 30x - 18 = -18$

$35x - 18 = -18$

$+18 \quad +18$

$35x = 0$

$x = 0$