

Assignment: Section 3-5

Date

Period

Solve by factoring out the greatest common factor.

1) $4x^2 - 40x = 0$

$$4x(x-10) = 0$$

$$\boxed{x=0 \quad x=10}$$

3) $x^3 - 9x^2 = 0$

$$x^2(x-9) = 0$$

$$\boxed{x=0 \quad x=9}$$

Solve by factoring the trinomial.

5) $r^2 - 2r - 63 = 0$

$$(r-9)(r+7) = 0$$

$$\boxed{r=9, \quad r=-7}$$

7) $b^2 - 3b - 18 = 0$

$$(b-6)(b+3) = 0$$

$$\boxed{b=6, \quad b=3}$$

Solve by factoring the difference of squares.

9) $4n^2 - 9 = 0$

$$(2n+3)(2n-3) = 0$$

$$\boxed{n=-3/2 \quad n=3/2}$$

2) $6n^3 - 60n^2 = 0$

$$6n^2(n-10) = 0$$

$$\boxed{n=0 \quad n=10}$$

4) $6r^2 + 30r = 0$

$$6r(r+5) = 0$$

$$\boxed{r=0 \quad r=-5}$$

6) $p^2 + 6p + 5 = 0$

$$(p+5)(p+1) = 0$$

$$\boxed{p=-5 \quad p=-1}$$

8) $b^2 + 7b - 30 = 0$

$$(b+10)(b-3) = 0$$

$$\boxed{b=-10 \quad b=3}$$

11) $4p^2 - 1 = 0$

$$(2p-1)(2p+1) = 0$$

$$\boxed{p=1/2 \quad p=-1/2}$$

10) $9x^2 - 25 = 0$

$$(3x+5)(3x-5) = 0$$

$$\boxed{x=-5/3, \quad x=5/3}$$

Solve by factoring by grouping.

13) $18x^3 - 30x^2 - 15x + 25 = 0$

$$(6x^2-5)(3x-5) = 0$$

$$\boxed{x=5/3}$$

$$6x^2=5$$

$$\sqrt{x^2=5/6}$$

$$\boxed{x=\pm\sqrt{5/6}}$$

14) $2v^3 + v^2 + 16v + 8 = 0$

$$(v^2+8)(2v+1) = 0$$

$$\boxed{v=-1/2}$$

$$\sqrt{v^2}=f8$$

$$v=\text{imag \#}$$

15) $7x^3 + 8x^2 - 56x - 64 = 0$

$$(x^2+8)(7x+8) = 0$$

$$x^2=8$$

$$\boxed{x=\pm\sqrt{8}}$$

$$\boxed{x=-8/7}$$

16) $56a^3 - 35a^2 + 64a - 40 = 0$

$$(7a^2+8)(8a-5) = 0$$

$$7a^2=8$$

$$\sqrt{a^2}=f8/7$$

$$\boxed{a=5/8}$$

$$a=\text{imag \#}$$

Solve each equation by taking square roots. You should have 2 answers, a positive and a negative.

$$17) \frac{6r^2}{6} = \frac{354}{6} \quad \sqrt{r^2} = \sqrt{59}$$

$$\boxed{r = \pm\sqrt{59}}$$

$$18) \begin{array}{r} m^2 - 8 = 73 \\ +8 \quad +8 \\ \hline \end{array} \quad \sqrt{m^2} = \sqrt{81} \quad \boxed{m = \pm 9}$$

$$19) \begin{array}{r} 7x^2 + 6 = 181 \\ -6 \quad -6 \\ \hline \end{array} \quad \sqrt{x^2} = \sqrt{25}$$

$$\frac{7x^2}{7} = \frac{175}{7} \quad \boxed{x = \pm 5}$$

$$20) \begin{array}{r} 5n^2 + 10 = 255 \\ -10 \quad -10 \\ \hline \end{array} \quad \sqrt{n^2} = \sqrt{49}$$

$$\frac{5n^2}{5} = \frac{245}{5} \quad \boxed{n = \pm 7}$$

Solve each equation by completing the square.

$$21) x^2 - 16x + 63 = 0$$

$$22) n^2 + 20n - 44 = 0$$

$$23) v^2 - 10v - 77 = 4$$

$$24) b^2 + 12b - 91 = -2$$

Find the discriminant of each quadratic equation then state the number and type of solutions. $d = b^2 - 4ac$

$$25) 10x^2 + 6x - 4 = 0$$

$$26) -k^2 + 2k - 1 = 0$$

$$27) -9v^2 + 6v - 1 = 0$$

$$28) 2m^2 + 6m + 7 = 0$$

Solve each equation with the quadratic formula.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$29) 5n^2 + 11n - 124 = 0$$

$$30) 4x^2 - x - 18 = 0$$

$$31) 4r^2 + 4r - 18 = 0$$

$$32) 3x^2 + 5x - 78 = 0$$