

17 problems /10 pts.

Algebra 2 - Assignment 29

Book: p344

$$5. (3y+7)(y+5)=0$$

$$\begin{array}{r} 3y+7=0 \\ -7 \quad -7 \\ \hline 3y=-7 \\ y=-\frac{7}{3}, y=-5 \end{array}$$

$$11. (a+4)(a+1)=0$$

$$\begin{array}{r} a+4=0 \\ -4 \quad -4 \\ \hline a=-4, -1 \end{array}$$

$$13. (2x+6)(x-3)=0$$

$$\begin{array}{r} 2x+6=0 \\ -6 \quad -6 \\ \hline 2x=-6 \\ \frac{2x}{2}=\frac{-6}{2} \\ x=-3, 3 \end{array}$$

$$15. x^2-x=12$$

$$\begin{array}{r} x^2-x-12=0 \\ (x-4)(x+3)=0 \\ \begin{array}{r} x-4=0 \\ +4 \quad +4 \\ \hline x=4, -3 \end{array} \end{array}$$

$$17. z^2-12z+36=0$$

$$(z-6)(z-6)=0$$

$$\begin{array}{r} z-6=0 \\ +6 \quad +6 \\ \hline z=6 \end{array}$$

$$19. r^2-3r=4$$

$$\begin{array}{r} r^2-3r-4=0 \\ (r-4)(r+1)=0 \\ \begin{array}{r} r-4=0 \\ +4 \quad +4 \\ \hline r=4, r=-1 \end{array} \end{array}$$

$$21. 18u^2-3u=1$$

$$18u^2-3u-1=0$$

$$(6u+1)(3u-1)=0$$

$$\begin{array}{r} 6u+1=0 \\ -1 \quad -1 \\ \hline 6u=-1 \\ \frac{6u}{6}=\frac{-1}{6} \\ u=-\frac{1}{6}, u=\frac{1}{3} \end{array}$$

$$23. 9y^2+16=-24y$$

$$9y^2+24y+16=0$$

$$(3y+4)(3y+4)=0$$

$$\begin{array}{r} 3y+4=0 \\ -4 \quad -4 \\ \hline 3y=-4 \\ \frac{3y}{3}=\frac{-4}{3} \\ y=-\frac{4}{3} \end{array}$$

$$25. b^2+3b=40$$

$$b^2+3b-40=0$$

$$(b+8)(b-5)=0$$

$$\begin{array}{r} b+8=0 \\ -8 \quad -8 \\ \hline b=-8, b=5 \end{array}$$

Assignment 29 - Continued

27.  $4s^2 - 11s = 3$

$4s^2 - 11s - 3 = 0$

$(4s+1)(s-3) = 0$

$$\begin{array}{r} 4s+1=0 \quad s-3=0 \\ -1 \quad -1 \quad +3 \quad +3 \\ \hline 4s=-1 \quad s=3 \end{array}$$

$s = -\frac{1}{4}, s = 3$

29.  $12m^2 + 25m + 12 = 0$

$(4m+3)(3m+4) = 0$

$$\begin{array}{r} 4m+3=0 \quad 3m+4=0 \\ -3 \quad -3 \quad -4 \quad -4 \\ \hline 4m=-3 \quad 3m=-4 \\ \frac{4}{4} \quad \frac{-3}{4} \quad \frac{3}{3} \quad \frac{-4}{3} \end{array}$$

$m = -\frac{3}{4}, -\frac{4}{3}$

31.  $n^3 = 9n$

$n^3 - 9n = 0$

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

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

$$\begin{array}{r} n=0, n+3=0, n-3=0 \\ -3 \quad -3 \quad +3 \quad +3 \end{array}$$

$n = 0, -3, 3$

33.  $35z^3 + 16z^2 = 12z$

$35z^3 + 16z^2 - 12z = 0$

$z(35z^2 + 16z - 12) = 0$

$z(7z+6)(5z-2) = 0$

$$\begin{array}{r} z=0, 7z+6=0 \quad 5z-2=0 \\ -6 \quad -6 \quad +2 \quad +2 \end{array}$$

$$\begin{array}{r} 7z=-6 \quad 5z=2 \\ \frac{7}{7} \quad \frac{-6}{7} \quad \frac{5}{5} \quad \frac{2}{5} \end{array}$$

$z = 0, -\frac{6}{7}, \frac{2}{5}$

Page 363 (write an equ. with the roots)

17.  $6, -9 \quad x=6, x=-9$

$(x-6)(x+9) = 0$

$x^2 + 9x - 6x - 54 = 0$

$x^2 + 3x - 54 = 0$

19.  $2, \frac{5}{8} \quad x=2, x=\frac{5}{8}$

$(x-2)(8x-5) = 0$

$8x^2 - 5x - 16x + 10 = 0$

$8x^2 - 21x + 10 = 0$

21.  $-\frac{2}{5}, \frac{2}{5} \quad x=-\frac{2}{5}, x=\frac{2}{5}$

$(5x+2)(5x-2) = 0$

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

$25x^2 - 4 = 0$

23.  $-4, -\frac{2}{3} \quad x=-4, x=-\frac{2}{3}$

$(x+4)(3x+2) = 0$

$3x^2 + 2x + 12x + 8 = 0$

$3x^2 + 14x + 8 = 0$