Algebra I 4-18-13 Class Notes

(16) $12r^2 = 28r + 24$

$12r^2 - 28r - 24 = 0$

$4(3r^2 - 7r - 6) = 0$

sum = b = −7

prod = ac = −18

+2 −9

$(3r^2 - 9r) + (2r - 6) = 0$

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

$4(r - 3)(3r + 2) = 0$

$r = \{3, -\frac{2}{3}\}$

CK r = 3 $\quad 12(3)^2 \stackrel{?}{=} 28(3) + 24$

$108 \stackrel{?}{=} 84 + 24$ ✓

CK $r = -\frac{2}{3}$ $\quad 12(-\frac{2}{3})^2 \stackrel{?}{=} 28(-\frac{2}{3}) + 24$

$12(\frac{4}{9}) \stackrel{?}{=} -\frac{56}{3} + \frac{72}{3}$

$\frac{16}{3} \stackrel{?}{=} \frac{16}{3}$ ✓

WS (17) $0 = -2x^2 + 3x - 1$

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

sum = b = −3

prod = ac = 2

−1 · −2

$(2x^2 - 1x) + (-2x + 1) = 0$

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

$(2x-1)(x-1) = 0$ $\boxed{x = \{1, \frac{1}{2}\}}$

CK $x=1$ $0 \stackrel{?}{=} -2(1)^2 + 3(1) - 1$

$0 \stackrel{?}{=} -2 + 3 - 1$ ✓

CK $x=\frac{1}{2}$ $0 \stackrel{?}{=} -2(\frac{1}{2})^2 + 3(\frac{1}{2}) - 1$

$0 \stackrel{?}{=} -\frac{1}{2} + \frac{3}{2} - \frac{2}{2}$ ✓

(28) $3k = -2k^2 + 9$

$2k^2 + 3k - 9 = 0$

sum = b = 3

prod = ac = -18

$-3 \quad +6$

$(2k^2 - 3k) + (6k - 9) = 0$

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

$(2k - 3)(k + 3) = 0$; $k = \{\frac{3}{2}, -3\}$

$2k - 3 = 0$

$+3 \quad +3$

$\frac{2k}{2} = \frac{3}{2}$

Ck

$k = -3$ $3(-3) \stackrel{?}{=} -2(-3)^2 + 9$

$-9 \stackrel{?}{=} -18 + 9$ ✓

$k = \frac{3}{2}$ $3(\frac{3}{2}) \stackrel{?}{=} -2(\frac{3}{2})^2 + 9$

$\frac{9}{2} \stackrel{?}{=} -\frac{9}{2} + \frac{18}{2}$ ✓