

$$2a, 3b, 2c, 3a, 2b$$

2a.

$$(x-7)^2 - 13(x-7) + 36 = 0$$

$$\underline{u = x - 7}$$

$$u^2 - 13u + 36 = 0$$

$$u = \frac{13 \pm \sqrt{13^2 - 4(1)(36)}}{2(1)}$$

$$u = \frac{13 \pm \sqrt{25}}{2} = \frac{13 \pm 5}{2}$$

$$u = \frac{13+5}{2} = \frac{18}{2} = 9$$

$$u = \frac{13-5}{2} = \frac{8}{2} = 4$$

$$9 = x - 7$$

$$x = 16$$

$$4 = x - 7$$

$$x = 11$$

$$2b) \underline{(1-3x)^2} - 13(1-3x) + 36 = 0$$

$$\underline{u = 1 - 3x}$$

$$u^2 - 13u + 36 = 0$$

From previous problem

$$u = 4, 9$$

$$4 = 1 - 3x$$

$$-1$$

$$\frac{3 = -3x}{-3}$$

$$\underline{-1 = x}$$

$$9 = 1 - 3x$$

$$-1$$

$$\frac{8 = -3x}{-3}$$

$$\underline{x = -8/3}$$

$$2c) x^4 - 13x^2 + 36 = 0$$

$$u = x^2$$

$$u^2 - 13u + 36 = 0$$

$$u = 4, 9$$

$$\sqrt{4} = \sqrt{x^2}$$

$$\sqrt{9} = \sqrt{x^2}$$

3a)

$$2\left(\frac{1}{2y}\right)^2 + 5\left(\frac{1}{2y}\right) - 3 = 0$$

$$u = \frac{1}{2y}$$

$$2u^2 + 5u - 3 = 0$$

$$u = \frac{-5 \pm \sqrt{25 - 4(2)(-3)}}{2(2)}$$

$$u = \frac{-5 \pm \sqrt{49}}{4} = \frac{-5 \pm 7}{4}$$

$$u = \frac{-5+7}{4} = \frac{2}{4} = \frac{1}{2}$$

$$u = \frac{-5-7}{4} = \frac{-12}{4} = -3$$

$$2\left(\frac{1}{2}\right) = \left(\frac{1}{2y}\right)^2 \quad 2y(-3) = \left(\frac{1}{2y}\right)^2 y$$

$$y(-1) = \left(\frac{1}{y}\right)y$$

$$-y = 1$$

$$y = -1$$

$$\frac{-6y = 1}{-6}$$

$$y = -1/6$$

$$3b) 2(y^2 - 4)^2 + 5(y^2 - 4) - 3 = 0$$

$$u = y^2 - 4$$

$$2u^2 + 5u - 3 = 0$$

$$u = -\frac{1}{2}, -3 \quad \text{From previous problem.}$$

$$-\frac{1}{2} = y^2 - 4$$

$$+4$$

$$3.5 = y^2$$

$$y \approx \pm 1.87$$

$$-3 = y^2 - 4$$

$$\sqrt{\quad} = \sqrt{y^2}$$

$$y = \pm 1$$

HW Assessment
4/16/10

$$1b) (2x-1)^2 - 5(2x-1) + 4 = 0$$