

HW 28

p118

112. $0 = 2x^2 - 3x - 11$

$$x = \frac{3 \pm \sqrt{9 - 4(2)(-11)}}{4}$$

$$x = \frac{3 \pm \sqrt{9 + 88}}{4}$$

$$x = \frac{3 \pm \sqrt{97}}{4}$$

119. a) $y = -16t^2 + 25000$

$$0 = -16t^2 + 25000$$

$$-25000 = -16t^2$$

$$1562.5 = t^2$$

$$39.53 \text{ s} = t$$

120. a) $y = -16t^2 + 984$

b) $y = -16(4) + 984$

$$y = 920 \text{ ft.}$$

c) $0 = -16t^2 + 984$

$$-984 = -16t^2$$

$$61.5 = t^2$$

$$7.8 \text{ sec} = t$$

121. a) $\frac{100 \text{ mph}}{1 \text{ hr}} \left(\frac{5280 \text{ ft}}{1 \text{ mi}} \right) \left(\frac{1 \text{ hr}}{60 \text{ min}} \right) \left(\frac{1 \text{ min}}{60 \text{ sec}} \right)$

$$= 146.7 \text{ ft/sec}$$

$$y = -16t^2 + 146.7t + 6.25$$

125. a) $l^2 = 15^2 + x^2$

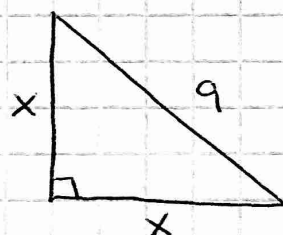
$$75^2 = 15^2 + x^2$$

$$5625 = 225 + x^2$$

$$5400 = x^2$$

b) $73.5 \text{ ft} = x$

127.



$$x^2 + x^2 = 9^2$$

$$2x^2 = 81$$

$$x^2 = 40.5$$

$$x = 6.4 \text{ cm}$$

139. $-3x^2 - x - 10 = 0$

$$D = (-1)^2 - 4(-3)(-10)$$

$$D = 1 - 120$$

$$D = -119$$

no real roots (F)

140. false.