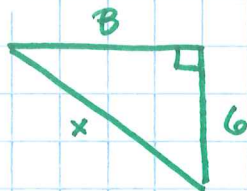


Geometry Ch. 8-9A HW #5

1)



$$6^2 + B^2 = x^2$$

$$36 + 64 = x^2$$

$$100 = x^2$$

$$x = 10$$

$P = 24$ units

2)

$$x^2 + (3\sqrt{5})^2 = 9^2$$

$$x^2 + (3\sqrt{5})(3\sqrt{5}) = 81$$

$$x^2 + 9\sqrt{25} = 81$$

$$x^2 + 9 \cdot 5 = 81$$

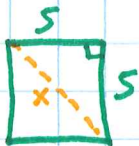
$$x^2 + 45 = 81$$

$$x^2 = 36$$

$$x = \sqrt{36}$$

$$x = 6$$

3)



$$5^2 + 5^2 = x^2$$

$$25 + 25 = x^2$$

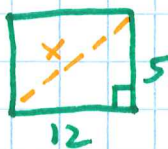
$$50 = x^2$$

$$x = \sqrt{50}$$

$$x = \sqrt{25 \cdot 2}$$

$$x = 5\sqrt{2}$$

4)



$$5^2 + 12^2 = x^2$$

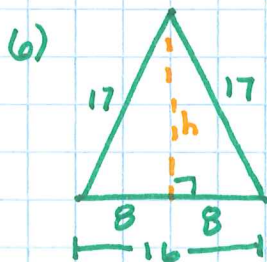
$$25 + 144 = x^2$$

$$169 = x^2$$

$$x = \sqrt{169}$$

$$x = 13$$

5) $x^2 + \sqrt{11}^2 = 4^2$
 $x^2 + \sqrt{121} = 16$
 $x^2 + 11 = 16$
 $x = 5$
 $x = \sqrt{5}$



$$8^2 + h^2 = 17^2$$

$$64 + h^2 = 289$$

$$h^2 = 225$$

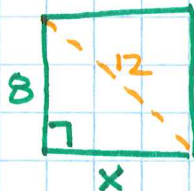
$$h = \sqrt{225}$$

$$h = 15$$

$$A = \frac{1}{2}(16)(15)$$

$$= 120 \text{ sq units}$$

7)



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

$$x^2 + 64 = 144$$

$$x^2 = 80$$

$$x = \sqrt{80}$$

$$x = \sqrt{16 \cdot 5}$$

$$x = 4\sqrt{5}$$

$$A = (4\sqrt{5})(4\sqrt{5})$$

$$= 16\sqrt{25}$$

$$= 16 \cdot 5$$

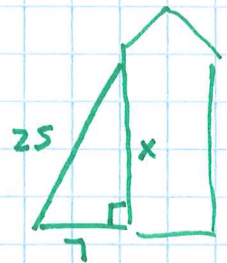
$$= 80 \text{ sq units}$$

8) $x^2 + 3^2 = (2\sqrt{3})^2$
 $x^2 + 9 = 2\sqrt{3} \cdot 2\sqrt{3}$
 $x^2 + 9 = 4\sqrt{9}$
 $x^2 + 9 = 4 \cdot 3$
 $x^2 + 9 = 12$
 $x^2 = 3$
 $x = \sqrt{3}$

$$P = 3 + \sqrt{3} + 2\sqrt{3}$$

$$= 3 + 3\sqrt{3}$$

9.



$$x^2 + 7^2 = 25^2$$

$$x^2 + 49 = 625$$

$$x^2 = 576$$

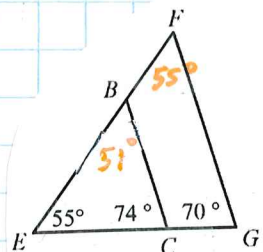
$$x = 24 \text{ feet}$$

Yes, it can reach a 22 foot window height since $24 > 22$.

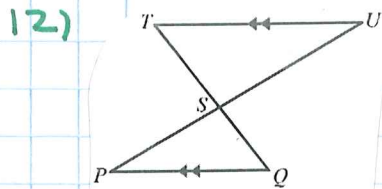
10. $\frac{24}{11} \neq \frac{16}{8}$

Δ 's not similar

11.



Δ 's not similar
 $\angle C \neq \angle G$ and
 $\angle F \neq \angle B$



Δ 's similar by AA \sim
 $\angle T \cong \angle Q$ alt int \angle 's
 $\angle U \cong \angle P$ alt int \angle 's

13)

$$\frac{98}{42} = \frac{70}{30} = \frac{49}{21}$$

$$\frac{7}{3} = \frac{7}{3} = \frac{7}{3}$$

Δ 's similar
 by SSS \sim
 since sides
 are proportional

14) scale factor

$$15 \cdot k = 12$$

$$k = \frac{12}{15}$$

$k = \frac{4}{5}$ or 0.8

$$\frac{x}{6.4} = \frac{15}{12}$$

$$12x = 96$$

$x = 8$

17(0.8) = y
 $13.6 = y$

15.

$$\frac{14}{x} = \frac{16}{10}$$

$$16x = 140$$

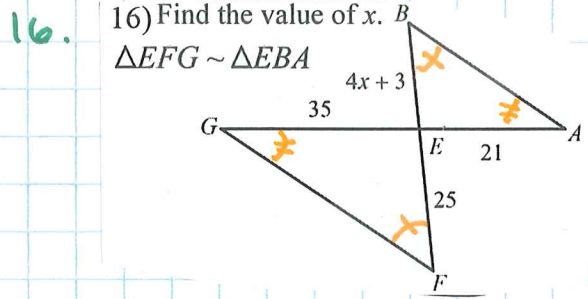
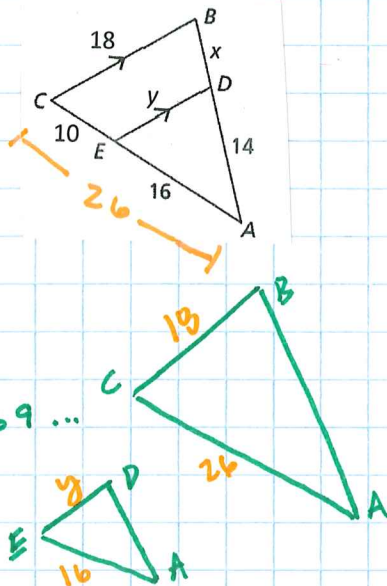
$$x = 8.75$$

$$\frac{16}{26} = \frac{y}{18}$$

$$26y = 288$$

$$y = 11.0769 \dots$$

$$y \approx 11.08$$



$$\frac{35}{21} = \frac{25}{4x+3}$$

$$35(4x+3) = 525$$

$$140x + 105 = 525$$

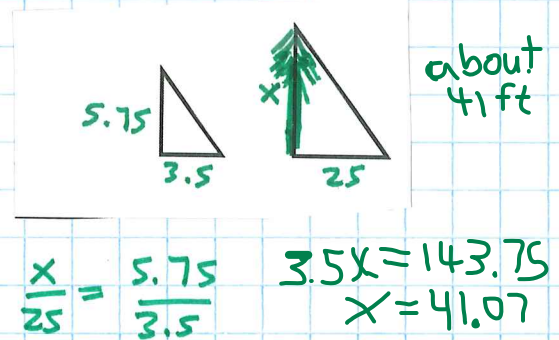
$$140x = 420$$

$$x = 3$$

17.

$$5 \text{ ft } 9 \text{ in} = 5 \frac{9}{12} = 5.75$$

$$3 \text{ ft } 6 \text{ in} = 3 \frac{6}{12} = 3.5$$



18a) $4\sqrt{45}$
 $4\sqrt{9 \cdot 5}$
 $4 \cdot 3\sqrt{5}$
 $12\sqrt{5}$

b) $\frac{\sqrt{3}}{\sqrt{5}} = \frac{\sqrt{3}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{15}}{5}$

c) $6 \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$

d) $\frac{11}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{11\sqrt{7}}{\sqrt{49}} = \frac{11\sqrt{7}}{7}$

19a) $\frac{\sqrt{2} \cdot \sqrt{14}}{\sqrt{28}} = \frac{\sqrt{28}}{\sqrt{28}} = 1$

b) $\frac{\sqrt{2}\sqrt{2}}{\sqrt{4}} = \frac{2}{2} = 1$

c) $2\sqrt{3} \cdot 5\sqrt{7} = 10\sqrt{21}$

d) $5\sqrt{3} \cdot 5\sqrt{3} = 25\sqrt{9} = 25 \cdot 3 = 75$

e) $3\sqrt{5} \cdot 2\sqrt{10} = 5\sqrt{50} = 5\sqrt{25 \cdot 2} = 5 \cdot 5\sqrt{2} = 25\sqrt{2}$