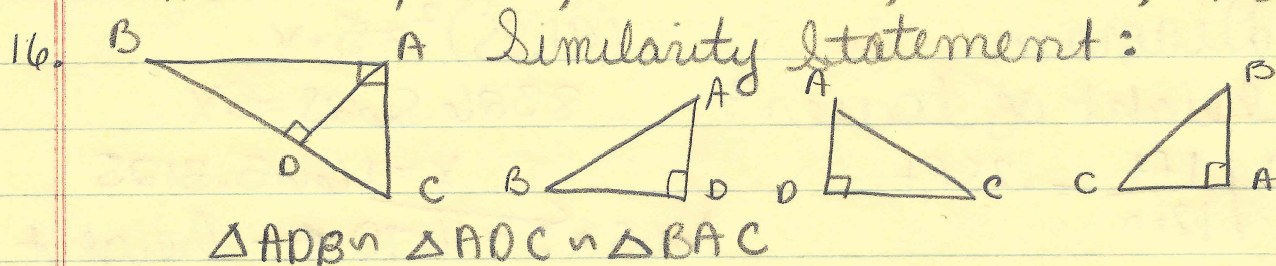


8.1 HW 16, 18, 21, 23, 24, 27, 28, 32, 35, 36, 39, 41, 48



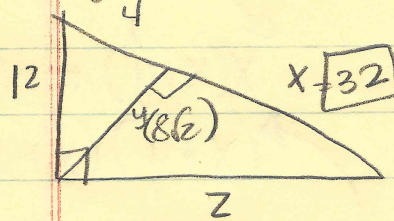
21. Geometric mean

21.  $\frac{1}{4} \text{ is } 80$   
 $x^2 = \frac{1}{4}(80)$   
 $\sqrt{x^2} = \sqrt{20}$   
 $x = 2\sqrt{5}$

23.  $\frac{2}{3} \text{ is } \frac{27}{40}$   
 $x^2 = \frac{2}{3}(\frac{27}{40})$   
 $x^2 = \frac{2 \cdot 9}{3 \cdot 40} = \frac{2 \cdot 9}{40 \cdot 20}$   
 $\sqrt{x^2} = \sqrt{\frac{9}{20}}$   
 $x = \frac{3}{\sqrt{20}}$   
 $x = \frac{3}{2\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{3\sqrt{5}}{10}$

18. 5 and 45  
 $x^2 = 5(45)$   
 $x = 15$

24. find  $x, y, \text{ and } z$ .



$32 + 4 = 36$

$12^2 = 4^2 + y^2$   
 $144 - 16 = y^2$   
 $\sqrt{y^2} = \sqrt{128}$   
 $y = 8\sqrt{2}$

$(8\sqrt{2})^2 = 4 \cdot x$   
 $\frac{128}{4} = x$   
 $x = 32$

$z^2 = 32(36)$   
 $\sqrt{z^2} = \sqrt{1152}$   
 $z = 24\sqrt{2}$

27. Diagram.  
height of tower?

$$\frac{3\text{in}}{12\text{in}} = \frac{1\text{ft}}{x}$$

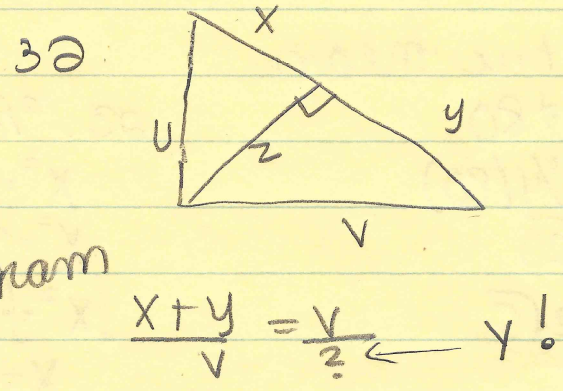
$$(91.25)^2 = 5 \cdot x$$

$$8326.5625 = 5x$$

$$x = 1665.3125$$

$$1665 + 5 = 1670 \leftarrow \text{height}$$

28.  $x^2 = a \cdot b$   
 $(8)^2 = 2 \cdot b$   
 $\frac{64}{2} = b$   
 $b = \boxed{32}$



diagram

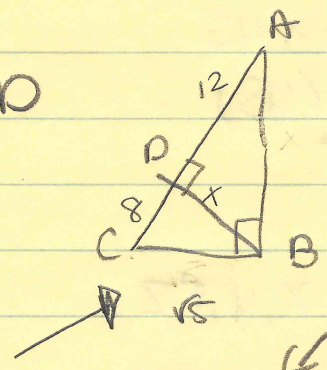
35.  $u^2 = (x+y)(?) \leftarrow \boxed{x}$

36. AD=12 CB=8 find BD

$$x^2 = 12(8)$$

$$x^2 = 96$$

$$x = \boxed{4\sqrt{6}} \leftarrow \overline{BD}$$



39. BC =  $\sqrt{5}$  AC =  $\sqrt{10}$  find CD

$$(\sqrt{5})^2 = \sqrt{10} \cdot x$$

$$\frac{5}{\sqrt{10}} = x$$

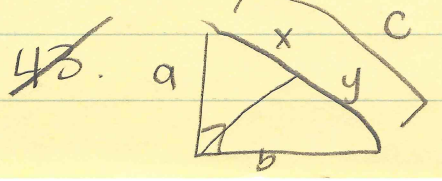
$$\boxed{\frac{5\sqrt{10}}{10}} = x \Rightarrow x = \boxed{\frac{\sqrt{10}}{2}}$$

factor

$$x(x+y) + y(x+y)$$

$$\leftarrow (x+y)(x+y)$$

41. B proportion  $\frac{12}{EF} = \frac{EF}{8}$



$$a^2 = x(x+y)$$

$$b^2 = y(x+y)$$

#48. area  $\Delta ABC =$   
H. 39 square meters!