

## Chapter 8 Practice Test

26 pts

1. "Length"  $\rightarrow$  Longest side

① 9 ft

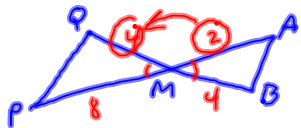
$$\frac{8 \text{ cm}}{3 \text{ ft}} = \frac{24 \text{ cm}}{x \text{ ft}} \Rightarrow x = \frac{3 \cdot 24 \text{ cm} \cdot 3 \text{ ft}}{1.8 \text{ cm}} = 9 \text{ ft}$$

② BC = 18  
DE = 6

$$\frac{12}{x} = \frac{3x}{9}$$

$$3x^2 = 108 \Rightarrow x^2 = 36 \Rightarrow x = 6$$

③  $\triangle MAB \sim \triangle MGP$   
SAS ~



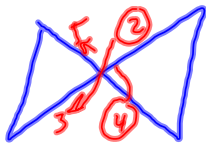
shortest  $\rightarrow$  shortest

$$\frac{2}{4} = \frac{4}{8} = \frac{1}{2} \checkmark$$

④ 33 ft

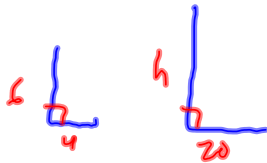
$$\frac{x}{55} = \frac{24}{4} \Rightarrow x = (5.5)(6) = 33$$

⑤ No  $\frac{2}{3} \neq \frac{4}{5}$



shortest  $\rightarrow$  shortest  $\frac{2}{3} \neq \frac{4}{5}$

⑥ 30 ft

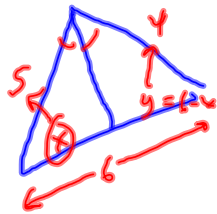


$$\frac{h}{c} = \frac{20}{4} \Rightarrow h = 30$$

⑦  $x = 20$        $\frac{x}{8} = \frac{15}{6} \Rightarrow x = \frac{5 \cdot 15 \cdot 8}{6} = \frac{40}{2} = 20$

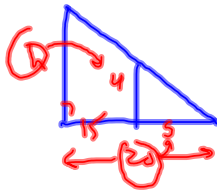
⑧  $\triangle ACB \sim \triangle ECD$   
AA~

⑨  $x = \frac{10}{3}$   
 $y = \frac{8}{3}$



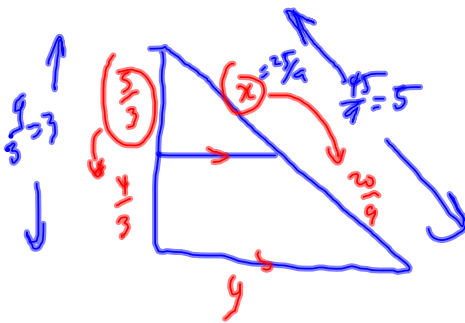
$y = 6 - x$        $\frac{x}{5} = \frac{6-x}{4} \Rightarrow 4x = 30 - 5x$   
 $9x = 30$   
 $x = \frac{30}{9} = \frac{10}{3}$   
 $y = 6 - \frac{10}{3}$

⑩ 16 ft



$\frac{h}{4} = \frac{20}{5}$        $h = 16$

⑪  $x = \frac{25}{9}$   
 $y = 4$



$\frac{x}{20/9} = \frac{9/3}{4/3} \Rightarrow \frac{x \cdot 9}{20} = \frac{5}{8} \cdot \frac{3}{4}$   
 $\frac{9x}{20} = \frac{5}{4}$   
 $9x = 25$   
 $x = \frac{25}{9}$   
 $y^2 + 3^2 = 5^2$   
 $y = 4$

(12) 4.09

$$\frac{x}{9} = \frac{5}{11} \Rightarrow x = \frac{45}{11} = 4.0909 \approx 4.09$$

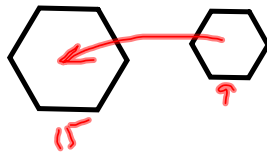
(13) 5.3

$$\frac{x}{7} = \frac{3}{4} \Rightarrow x = \frac{21}{4} = 5.25 \approx 5.3$$

(14)  $\frac{7}{5}$

$$\frac{x}{21} = \frac{7}{30.15} \Rightarrow x = \frac{21 \cdot 7}{30.15}$$

(15) D



$$S_{12} = \frac{9}{15} = \frac{3}{5} \rightarrow \text{ratio of perimeters}$$

$$S_{12}^2 = \frac{9}{25} \rightarrow \text{ratio of areas}$$

(16) 3, -7

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$a = 1$$

$$b = 4$$

$$c = -21$$

$$x^2 + 4x - 21 = 0$$

a      b      c

$$x = \frac{-4 \pm \sqrt{4^2 - 4(1)(-21)}}{2 \cdot 1}$$

$$= \frac{-4 \pm \sqrt{16 + 84}}{2} = \frac{-4 \pm \sqrt{100}}{2} = \frac{-4 \pm 10}{2}$$

$$= \frac{-4 + 10}{2}, \frac{-4 - 10}{2}$$

$$= \frac{6}{2}, \frac{-14}{2} = 3, -7$$

(17) D

$$\frac{2}{3} \times \frac{m}{d} \Rightarrow 2d = 3m$$

(18)

$$y = \frac{2}{5}x + \frac{16}{5}$$

$$A(x_1, y_1) = (-3, 2)$$

$$B(x_2, y_2) = (7, 6)$$

$$y - y_1 = m(x - x_1)$$

$$m = \frac{6 - 2}{7 - (-3)} = \frac{4}{10} = \frac{2}{5}$$

$$y - 2 = \frac{2}{5}(x - (-3))$$

$$y - 2 = \frac{2}{5}x + \frac{6}{5}$$

$$\begin{array}{r} +2 \qquad +2 \\ \hline y = \frac{2}{5}x + \frac{6}{5} + \frac{10}{5} \end{array}$$

$$y = \frac{2}{5}x + \frac{16}{5}$$

$$(19) \quad 6$$

$$2x = 12 \Rightarrow x = 6$$

$$(20) \quad 12$$

$$24 = 2x \Rightarrow x = 12$$

$$(21) \quad \frac{9}{2}$$

$$4x = 18 \Rightarrow x = \frac{18}{4} = \frac{9}{2}$$

$$(22) \quad \frac{3}{2}$$

$$5x = 3(x+1)$$

$$5x = 3x + 3$$

$$2x = 3$$

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

Pg 452 # 1-4, 6, 8-10  
461 # 10-13, 16-21, 27-32  
464 # 1-10, 12-13, 19-20, 23-24