

# Geometry Chapter A Test Solutions

1.  $8^2 = 16x$   
 $64 = 16x$   
 $x = 4$

2.  $x^2 = 4 \cdot 16$   
 $x = \sqrt{4 \cdot 16}$   
 $x = 2 \cdot 4 = 8$

3.  $x^2 = 3(3+9)$   
 $x^2 = 36$   
 $x = 6$

4.  $x = \sqrt{3^2 + 7^2}$   
 $= \sqrt{9 + 49} = \sqrt{58}$   
 $= \sqrt{16} \sqrt{3} = 4\sqrt{3}$

5.  $x = \sqrt{225 - 81} = \sqrt{144} = 12$

6.  $x = \sqrt{400 - 64}$   
 $= \sqrt{336}$   
 $= 2 \sqrt{168}$   
 $= 2 \sqrt{84 \cdot 2}$   
 $= 2 \sqrt{42 \cdot 2}$   
 $= 2 \sqrt{21 \cdot 2}$   
 $= 2 \cdot 2 \cdot 2 \cdot 2 \cdot 7 \cdot 3 = 4\sqrt{21}$

7. 6, 8, 10 Rt.  $\Delta$ .  
Pythag. trip.

8. 3, 4, 6  $3+4 > 6$  possible  
 $6^2 \square 4^2 + 3^2$   
 $36 \square > 16 + 9$   
obtuse

9. 6, 2, 5  $2+5 > 6$  ok  
 $36 \square > 4 + 25$   
obtuse

10.

$$5.4, 3.8, 6.5$$

$$3.8 + 5.4 > 6.5 \text{ ok}$$

$$(6.5)^2 \square (3.8)^2 + (5.4)^2$$

$$42.25 \square < 43.6$$

acute

11.

$$1 + 2 = 3 \text{ not possible}$$

12.

$$1.6 + 3.0 > 3.4 \text{ ok}$$

$$(3.4)^2 \square (1.6)^2 + (3.0)^2$$

$$11.56 \square = 11.56$$

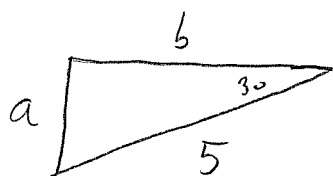
right  $\triangle$

13.

$$\begin{aligned} x &= 6 \\ y &= 6\sqrt{2} \end{aligned}$$

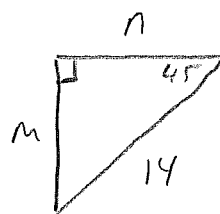


14.



$$a = \frac{5}{2} \quad b = \frac{5\sqrt{3}}{2}$$

15.



$$n = \frac{14}{\sqrt{2}} = 7\sqrt{2}$$

$$m = 7\sqrt{2}$$

16.

Leave as fractions

$$\sin A = \frac{9}{41}$$

$$\cos A = \frac{40}{41}$$

$$\tan A = \frac{9}{40}$$

17.

$$\sin A = \frac{12}{20} = \frac{3}{5}$$

$$\cos A = \frac{16}{20} = \frac{4}{5}$$

$$\tan A = \frac{3}{4}$$

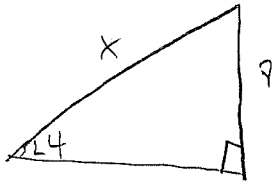
18.

$$\sin A = \frac{25}{65} = \frac{5}{13}$$

$$\cos A = \frac{60}{65} = \frac{12}{13}$$

$$\tan A = \frac{25}{60} = \frac{5}{12}$$

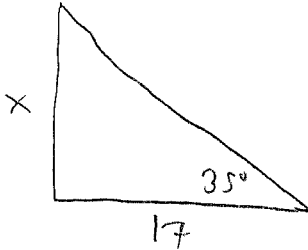
19.



$$\sin 24 = \frac{8}{x}$$

$$x = \frac{8}{\sin 24} = \boxed{19.7}$$

20.



$$\tan 35 = \frac{x}{17}$$

$$x = 17 \tan 35 = \boxed{11.9}$$