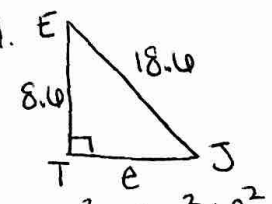


HW 128

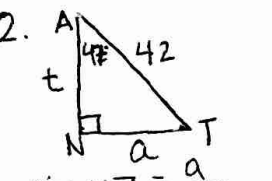
1. 

$$18.6^2 = 8.6^2 + e^2$$

$$16.5 = e$$

$$\sin J = \frac{8.6}{18.6}$$

$\angle J = 27.5^\circ$
 $\angle E = 62.5^\circ$
 $e = 16.5 \text{ in}$

2. 

$$\sin 47 = \frac{t}{42}$$

$30.7 \text{ ft} = a$

$$\cos 47 = \frac{a}{42}$$

$28.6 \text{ ft} = t$

3. $\sqrt{\frac{24}{50}} = \frac{\sqrt{24}}{\sqrt{50}} = \frac{2\sqrt{6}}{5\sqrt{2}} = \frac{2\sqrt{3}}{5}$

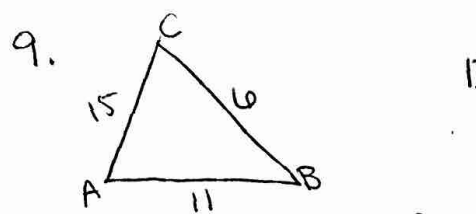
4. $4\sqrt{2}$

5. $\frac{8\sqrt{6}}{6} = \frac{4\sqrt{6}}{3}$

6. $\frac{5\sqrt{7}}{7}$

7. $\frac{\sqrt{6}}{2}$

8. $\frac{30\sqrt{18}}{18} = \frac{15\sqrt{18}}{9} = \frac{45\sqrt{2}}{9} = 5\sqrt{2}$

9. 

$$11^2 = 15^2 + 6^2 - 2(15)(6)\cos C$$

$$0.78 = \cos C$$

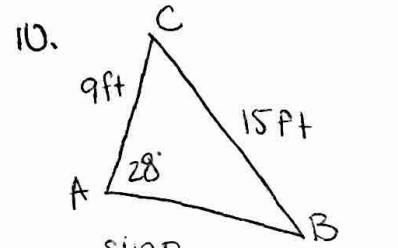
$$38.7^\circ = C$$

$$6^2 = 11^2 + 15^2 - 2(11)(15)\cos A$$

$$0.94 = \cos A$$

$$20.05^\circ = A$$

$\angle B = 121.3^\circ$
 $\angle A = 20^\circ$
 $\angle C = 38.7^\circ$

10. 

$$\frac{\sin B}{9} = \frac{\sin 28}{15}$$

$$15 \sin B = 9 \sin 28$$

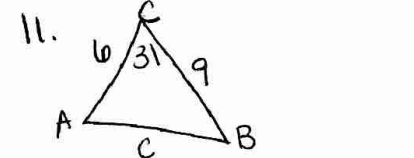
$$\sin B = 0.28$$

$$\angle B = 16.4^\circ$$

$$\angle C = 135.6^\circ$$

$$c^2 = 15^2 + 9^2 - 2(15)(9)\cos 135.6$$

$c = 22.3 \text{ ft}$
 $\angle B = 16.4^\circ$
 $\angle C = 135.6^\circ$

11. 

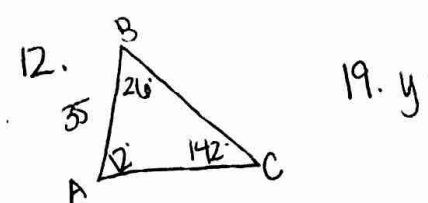
$$c^2 = 6^2 + 9^2 - 2(6)(9)\cos 31$$

$$c = 4.9$$

$$\frac{\sin 31}{4.9} = \frac{\sin A}{9}$$

$$9 \sin 31 = 4.9 \sin A$$

$\angle A = 71.1^\circ$
 $\angle B = 77.9^\circ$
 $c = 4.9 \text{ yd}$

12. 

$$\frac{\sin 142}{35} = \frac{\sin 12}{a}$$

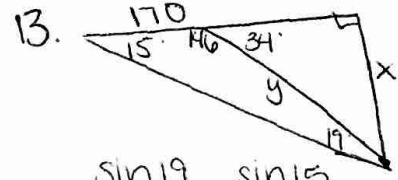
$$a \sin 142 = 35 \sin 12$$

$$a = 11.8$$

$$\frac{\sin 142}{35} = \frac{\sin 26}{b}$$

$$b \sin 142 = 35 \sin 26$$

$b = 24.9 \text{ mi}$
 $a = 11.8 \text{ mi}$
 $\angle C = 142^\circ$

13. 

$$\frac{\sin 19}{170} = \frac{\sin 15}{y}$$

$$y = 135.1$$

$$\sin 34 = \frac{x}{135.1}$$

$x = 75.5 \text{ m}$

14. $y = 4\sqrt{2} \text{ ft}$
 $x = 4\sqrt{6} \text{ ft}$

15. $x = \frac{\sqrt{32}}{\sqrt{2}} = \sqrt{16} = 4 \text{ cm}$
 $y = 4 \text{ cm}$

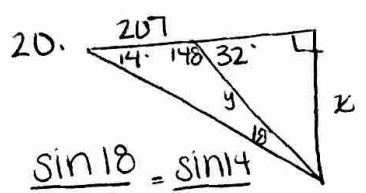
16. $x = \frac{7}{\sqrt{3}} \text{ in}$
 $x = \frac{7\sqrt{3}}{3} \text{ in}$

~~$\frac{5\sqrt{3}}{3} = \frac{5\sqrt{3}}{3} \text{ in}$~~

18. $\frac{5\sqrt{3}}{\sqrt{2}} \left(\frac{\sqrt{2}}{\sqrt{2}}\right) = \frac{5\sqrt{6}}{2} \text{ in}$

17. $\frac{5}{3}\sqrt{3} = \frac{5\sqrt{3}}{3} \text{ in}$

19. $y = \frac{9}{\sqrt{3}} = \frac{9\sqrt{3}}{3} = 3\sqrt{3} \text{ ft}$
 $x = 6\sqrt{3} \text{ ft}$

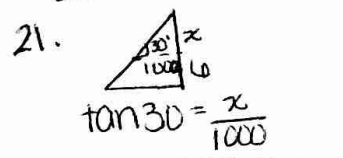
20. 

$$\frac{\sin 18}{207} = \frac{\sin 14}{y}$$

$$y = 162.1 \text{ ft}$$

$$\sin 32 = \frac{x}{162.1}$$

$85.9 \text{ ft} = x$

21. 

$$\tan 30 = \frac{x}{1000}$$

$$x = 577.4 + 6$$

$x = 583.4 \text{ ft}$

