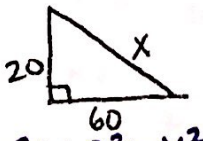
Chapter 8 Practice Test

1) Find x



$20^2+60^2=x^2$

$400+3600=x^2$

$4000=x^2$

$\sqrt{4000}=x$ $\boxed{63.2}$

2) Are 7, 28, and 29 a pythagorean triple?

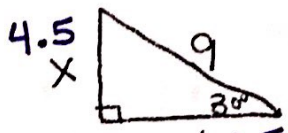
$7^2+28^2 \stackrel{?}{=} 29^2$

$49+784=841$

$833=841$

$\boxed{\text{NO}}$

3) Find x & y



$y\ 4.5\sqrt{3}$ or 7.8

once you have x you could use pythagorean Thm

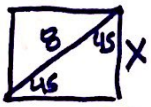
$4.5^2+y^2=9^2$

$19.8+y^2=81$

$-19.8 \quad -19.8$

$y^2=61.2$

4) The length of the diagonal of a square is 8 inches. Find its sides.



Sp. rt Δs

$x=\frac{8}{\sqrt{2}}$

$=5.7$

Pythag Thm

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

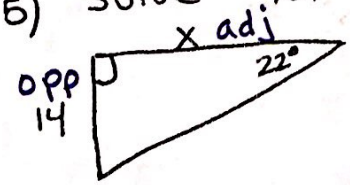
$\frac{2x^2}{2}=\frac{64}{2}$

$x^2=32$

$x=\sqrt{32}$

$=5.7$

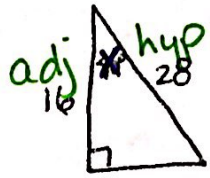
5) Solve for x



$\tan 22=\frac{14}{x}$

$\frac{.404}{1}=\frac{14}{x}$

$\frac{.404x}{.404}=\frac{14}{.404}$ $\boxed{x=34.7}$



$\cos x=\frac{16}{28}$

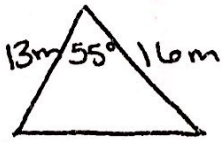
$\cos x=.5714$

$\cos^{-1}.5715=\boxed{55.2°}$

6) A ladder leaning against a building makes a 81° angle with the ground. The ladder is 18 feet tall. How far is the bottom of the ladder from the base of the building?

on back

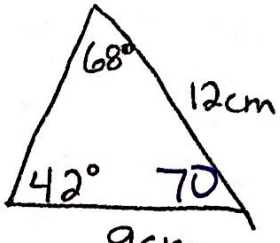
7) Find the area of the triangles.



$A=\frac{1}{2}ab\sin C$

$=\frac{1}{2}(13)(16)\sin 55$

$\boxed{=85.2m^2}$

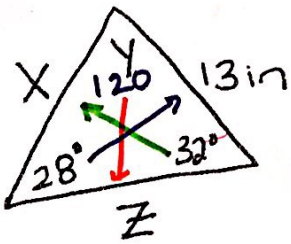


$A=\frac{1}{2}ab\sin C$

$\frac{1}{2}(9)(12)\sin 70$

$\boxed{A=50.7cm^2}$

8) Solve using Law of Sines.



$\frac{\sin 28}{13}=\frac{\sin 32}{x}$

$\frac{.469}{13}=\frac{.53}{x}$

$\frac{6.89}{.469}=\frac{.469x}{.469}$

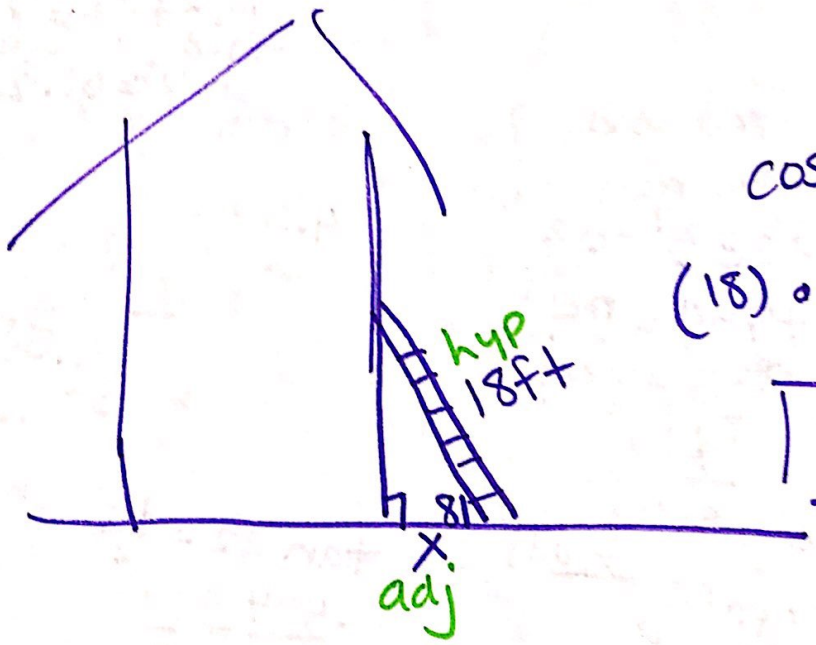
$\boxed{x=14.7}$

$\frac{\sin 28}{13}=\frac{\sin 120}{z}$

$\frac{.469}{13}=\frac{.866}{z}$

$\frac{.469z}{.469}=\frac{11.258}{.469}$

$\boxed{z=24}$



$$\cos 81 = \frac{x}{18}$$

$$(18) \cdot .1564 = \frac{x}{18} \ (18)$$

$$\boxed{2.8 = x}$$