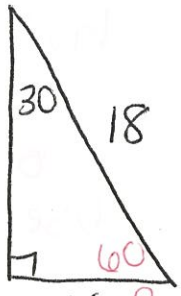
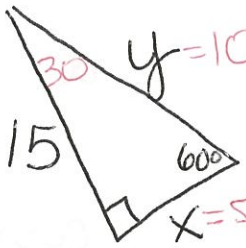
Right Triangles- extra Practice

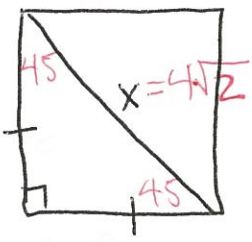
Exact Values in Simplest Rad. FORM

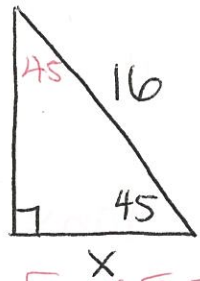
a) 

$9\sqrt{3} = y$

b) 

$x = \frac{15}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{15\sqrt{3}}{3} = 5\sqrt{3}$

c) 

d) 

$x = \frac{16}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{16\sqrt{2}}{2} = 8\sqrt{}$

② What is the exact length in Simplest radical form of an altitude of an equilateral triangle whose side is 30?

$15\sqrt{3}$

*30-60-90

③ Can 6, 8, 10 represent lengths of sides of a right triangle?

$6^2 + 8^2 = 10^2$

$36 + 64 = 100$

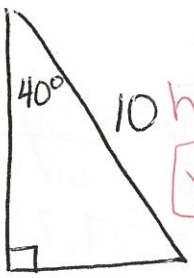
$100 = 100$ ✓

yes

④ Round to nearest tenth.

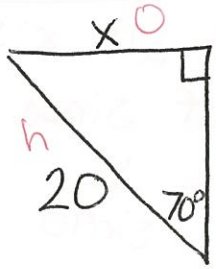
SOH CAH TOA (for right Δ's)

$\cos 40 = \frac{x}{10}$ multiply

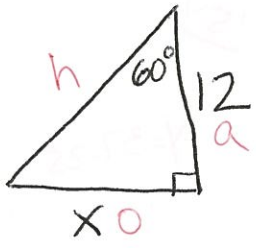
a) 

$x = 7.7$

$\sin 70 = \frac{x}{20}$

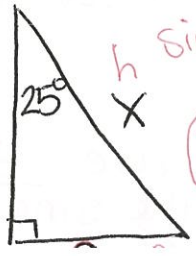
b) 

adj $x = 18.8$

c) 

$\tan 60 = \frac{x}{12}$

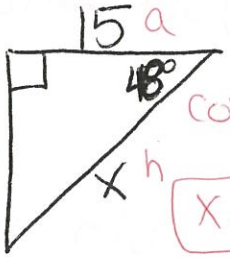
$x = 20.8$

d) 

divide

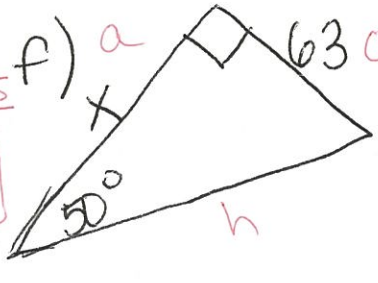
$\sin 25 = \frac{9}{x}$

$x = 21.3$

e) 

$\cos 48 = \frac{15}{x}$

$x = 22.4$

f) 

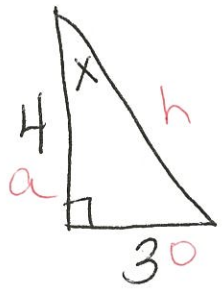
$\tan 50 = \frac{6}{x}$

$x = 52.9$

⑤ Find x to nearest whole

* Finding x use 2nd

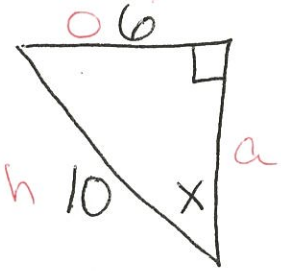
a)



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

$x = 37°$

b)

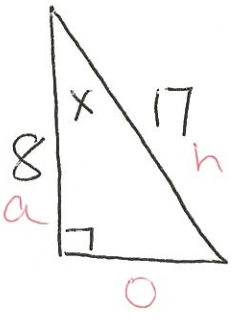


$\sin x = \frac{6}{10}$

2nd, sin(6/10)

$x = 37°$

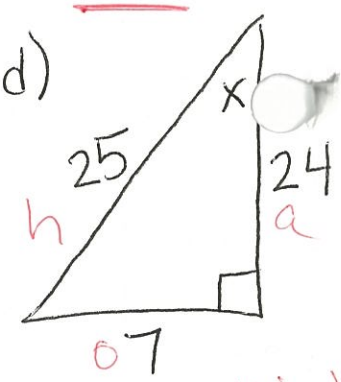
c)



$\cos x = \frac{8}{17}$

$x = 62°$

d)



Use anything!

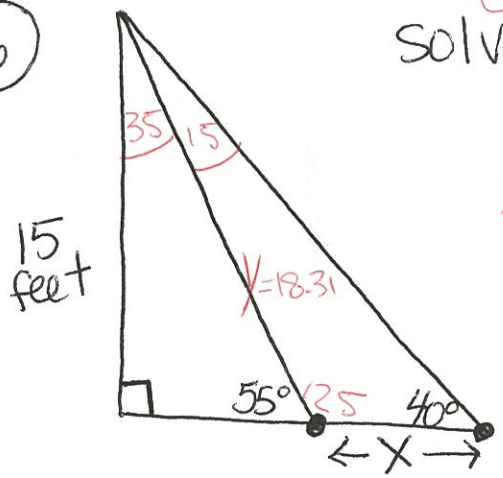
$\sin x = \frac{7}{25}$

$x = 16°$

⑥ Solve for x (nearest tenth)

1) Label all x's

2) use SOHCAHTOA to find middle piece (hyp)



$\sin 55 = \frac{15}{y}$ OR $\cos 35 = \frac{15}{y}$

$y = 18.31$

Use Law of Sines 3) $\frac{x}{\sin 15} = \frac{18.31}{\sin 40}$

$\frac{x \sin 40}{\sin 40} = \frac{18.31 \sin 15}{\sin 40}$

2 sides + 2 opposites

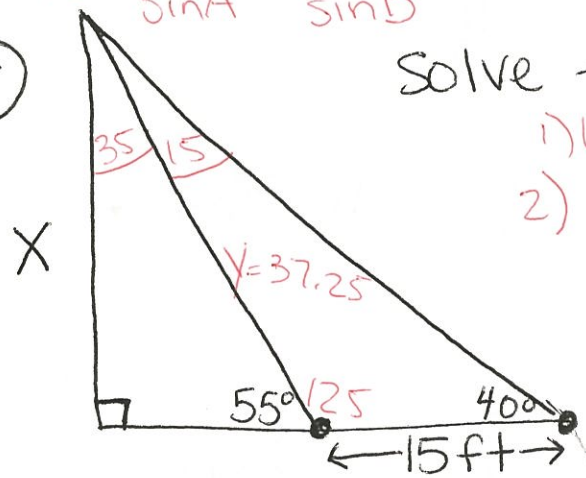
$\frac{a}{\sin A} = \frac{b}{\sin B}$

$x = 7.4$

⑦ Solve for x (nearest tenth)

1) Label all x's

2) Law of Sines FIRST



$\frac{15}{\sin 15} = \frac{y}{\sin 40}$

$\frac{15 \sin 40}{\sin 15} = \frac{y \sin 15}{\sin 15}$

$y = 37.25$

3) SOHCAHTOA

$\sin 55 = \frac{x}{37.25}$

$x = 30.5$

⑧ In right triangle ABC with right angle C. $\sin A = .2384$ and $\cos B = .2384$. Explain why that happens.

Sin and cos are cofunctions. In a right Δ, the sine of 1 angle