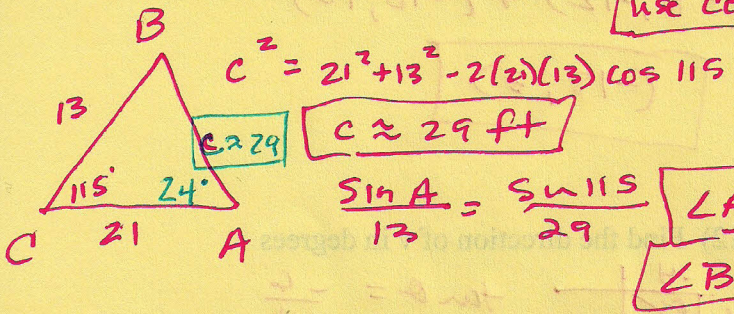


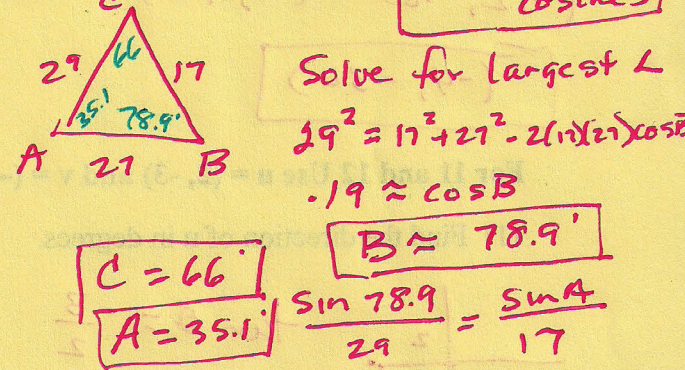
Review Trig Chapter 4

Solve each triangle. Round your answers to the nearest tenth.

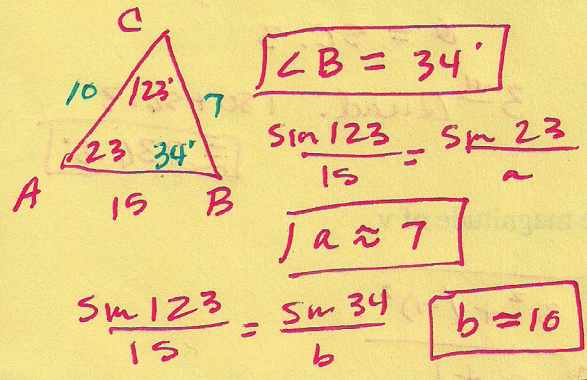
1)  $b = 21$  ft,  $a = 13$  ft,  $m\angle C = 115^\circ$  SAS use Cosines



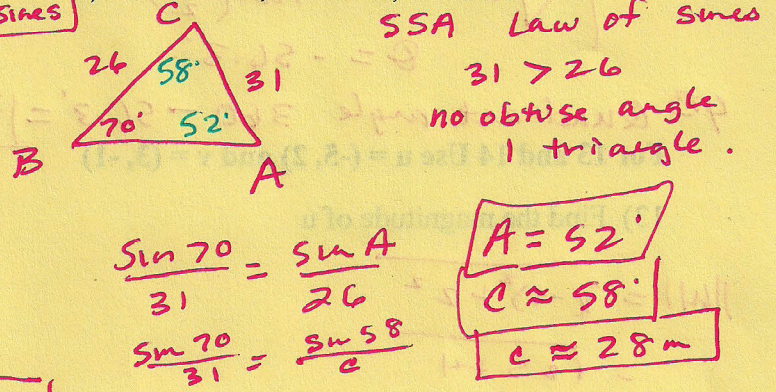
2)  $a = 17$  in,  $c = 27$  in,  $b = 29$  in SSS use law of Cosines



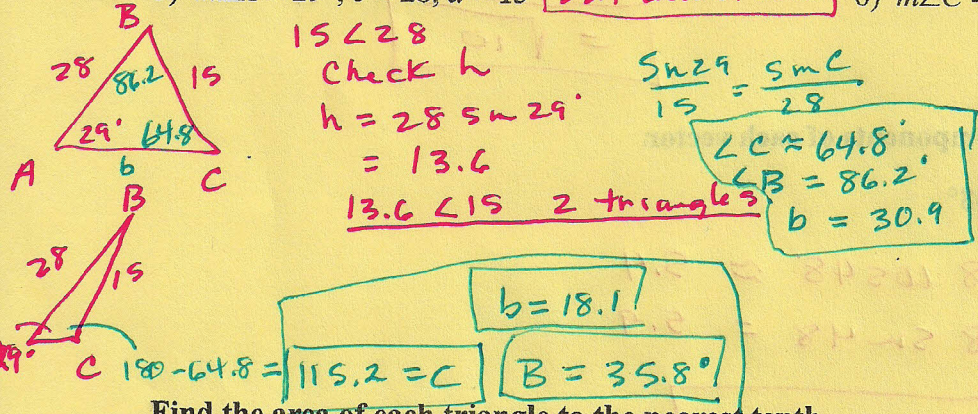
3)  $m\angle A = 23^\circ$ ,  $m\angle C = 123^\circ$ ,  $c = 15$  cm AAS use law Sines



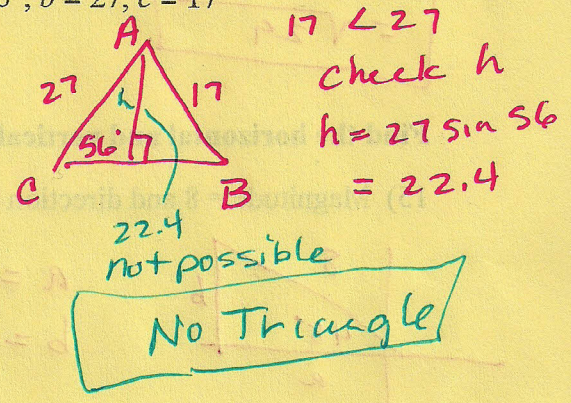
4)  $m\angle B = 70^\circ$ ,  $b = 31$  m,  $a = 26$  m SSA Law of Sines



5)  $m\angle A = 29^\circ$ ,  $c = 28$ ,  $a = 15$  SSA Law of Sines



6)  $m\angle C = 56^\circ$ ,  $b = 27$ ,  $c = 17$



Find the area of each triangle to the nearest tenth.

7) In  $\triangle DEF$ ,  $f = 11$  ft,  $d = 7.1$  ft,  $e = 12$  ft

SSS use  $A = \sqrt{s(s-a)(s-b)(s-c)}$   
 $s = \frac{11 + 7.1 + 12}{2} = 15.05$   
 $A = \sqrt{15.05(4.05)(7.95)(3.05)}$   
 $= 38.4$  ft<sup>2</sup>

8) In  $\triangle YZX$ ,  $z = 7.1$  cm,  $x = 4$  cm,  $m\angle Y = 102^\circ$

SAS use  $A = \frac{1}{2} ab \sin C$   
 $\frac{1}{2} xz \sin Y$   
 $\frac{1}{2} (4)(7.1) \sin 102^\circ$   
 $\approx 13.9$  cm<sup>2</sup>



Find the vector indicated Use  $u = (2, -3)$  and  $v = (-4, -6)$

9)  $3v + 4u$

$$3(-4, -6) + 4(2, -3)$$

$$(-12, -18) + (8, -12)$$

$$\boxed{(-4, -30)}$$

10)  $2v - 5u$

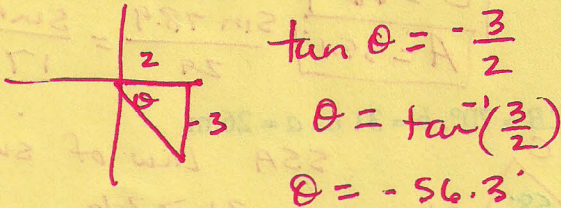
$$2(-4, -6) - 5(2, -3)$$

$$(-8, -12) + (-10, 15)$$

$$\boxed{(-18, 3)}$$

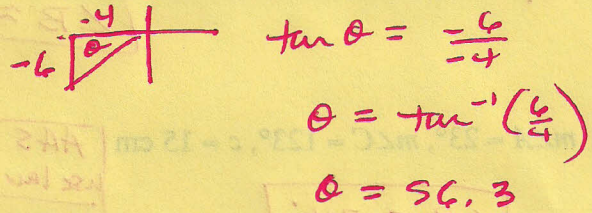
For 11 and 12 Use  $u = (2, -3)$  and  $v = (-4, -6)$

11) Find the direction of  $u$  in degrees.



4<sup>th</sup> Quadrant angle  $360 - 56.3 = \boxed{303.7^\circ}$

12) Find the direction of  $v$  in degrees



3<sup>rd</sup> Quad.  $180 + 56.3 = \boxed{236.3^\circ}$

For 13 and 14 Use  $u = (-5, 2)$  and  $v = (3, -1)$

13) Find the magnitude of  $u$

$$\|u\| = \sqrt{(-5)^2 + 2^2}$$

$$= \sqrt{25 + 4}$$

$$= \sqrt{29}$$

14) Find the magnitude of  $v$

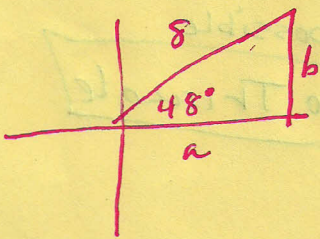
$$\|v\| = \sqrt{3^2 + (-1)^2}$$

$$= \sqrt{9 + 1}$$

$$= \sqrt{10}$$

Find the horizontal and vertical components of each vector.

15) Magnitude = 8 and direction =  $48^\circ$



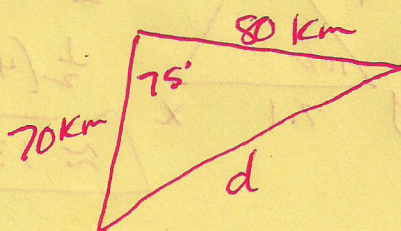
$$a = 8 \cos 48^\circ \approx 5.4$$

$$b = 8 \sin 48^\circ = 5.9$$

$$\boxed{(5.4, 5.9)}$$

16) Two ships leave the Boston Harbor at the same time. What is the distance between ships A and C after they traveled 80 kilometers and 70 kilometers respectively?

forgot the picture!



$$d^2 = 70^2 + 80^2 - 2(70)(80)\cos 75$$

$$\boxed{d \approx 91.7 \text{ km}}$$