

Adv. Alg.-Trig.

#1,2 → T'nite HW 9.4 and
Law of Sines Review
Study for TEST

(skip #6)

Homework #9.3

1) 173ft

2) 143ft

3) 43ft

Practice Worksheet

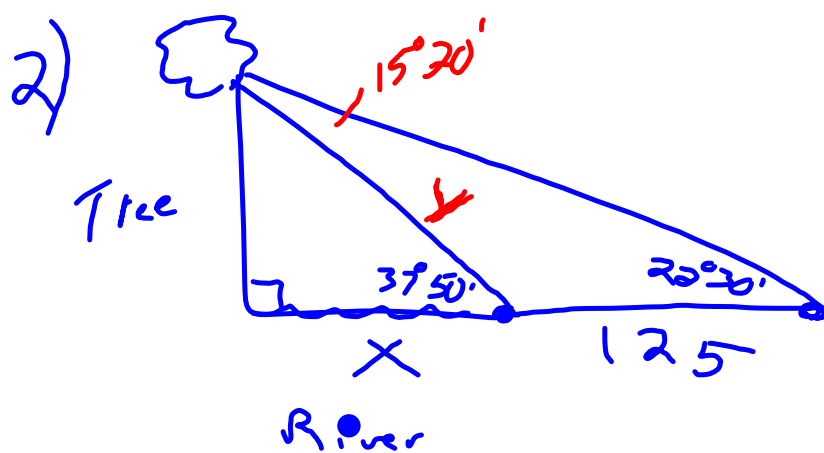
2) $2\sqrt{2}$
(2.8)

4) 5.3

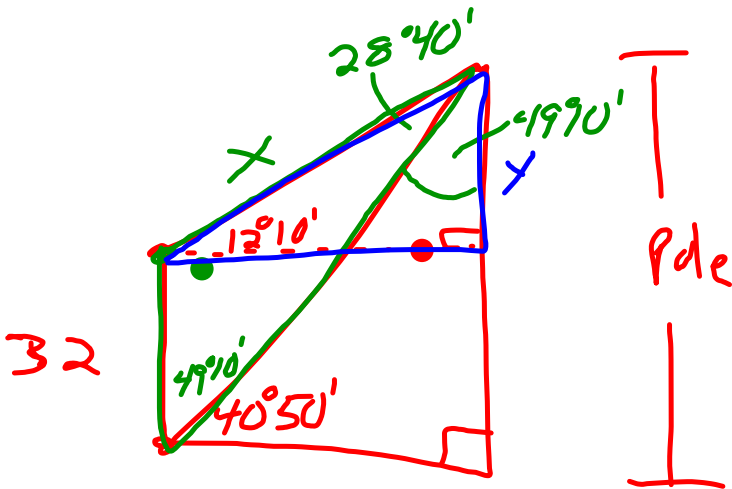
6) 22

12) 14.8

15) 202.3



3)



Warmup:

**Do problems 1-3 on the
"Law of Sines Review" Ditto**

Trig Law of Sines Review

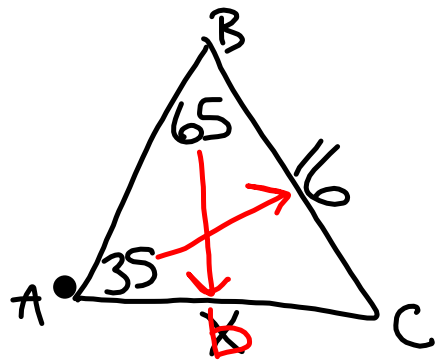
Find all sides to the nearest 10th and angles to nearest minute.

For $\triangle ABC$ find the indicated side:

1. $a = 16$, $\angle A = 35^\circ$, $\angle B = 65^\circ$ $b = ?$

$$\frac{b}{\sin 65} \times \frac{16}{\sin 35}$$

$$b = 25.3$$



2. $b = 2.1$, $\angle A = 110^\circ$, $\angle C = 40^\circ$, $a = ?$

$$\frac{a}{\sin 110} = \frac{2.1}{\sin 30}$$

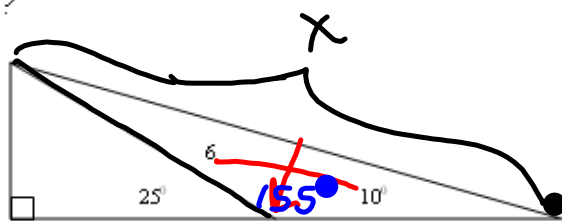
$$a = 3.9$$

3. $c = 30$, $\angle A = 42^\circ$, $\angle C = 98^\circ$, $b = ?$

$$\frac{b}{\sin 40} = \frac{30}{\sin 98}$$

$$b = 19.5$$

4. A 6m loading ramp that makes a 25° angle with the horizontal is to be replaced by a ramp whose angle of inclination is only 10° . How long will the new ramp be?

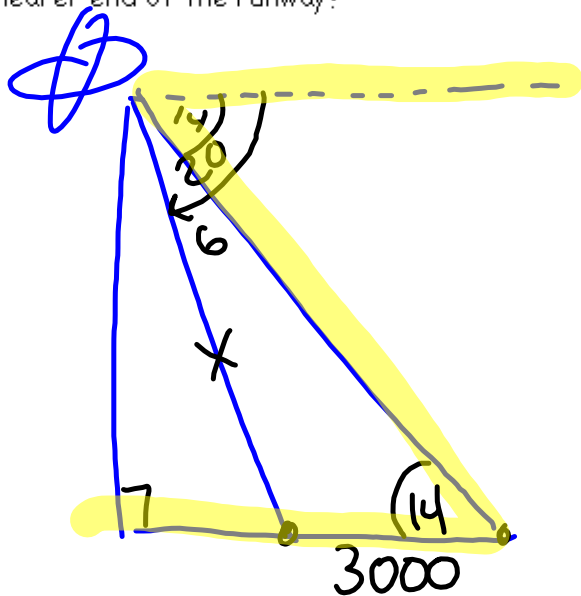


$$180 - 25 = 155$$

$$\frac{X}{\sin 155} = \frac{6}{\sin 10}$$

14.6m

5. A pilot approaching a 3000m runway finds that the angles of depression of the ends of the runway are 14° and 20° . How far is the plane from the nearer end of the runway?



$$\frac{x}{\sin 14} = \frac{3000}{\sin 6}$$

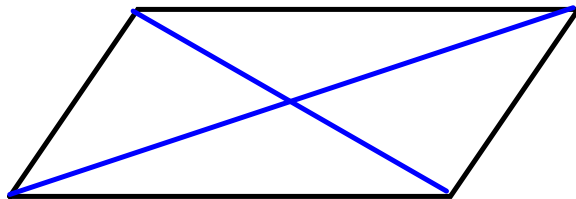
$$x = 6,943.23 \text{ m}$$

6. The skipper of a sailboat 6 km from the nearer of 2 towers on shore 10 km apart finds that the angle between the lines of sight to the towers is 35° . How far is the boat from the farther tower?



properties?

diagonals bisect each other!



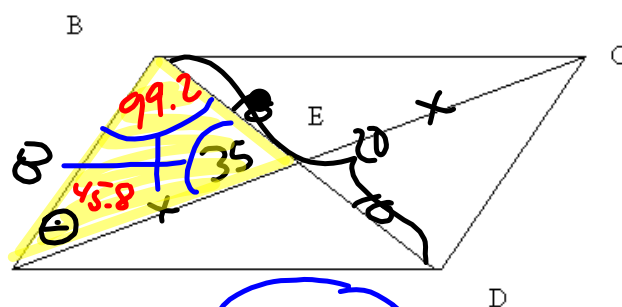
7. ABCD is a parallelogram

$$\angle AEB = 35^\circ$$

$$BD = 20 \text{ cm}$$

$$AB = 8 \text{ cm}$$

Find AC



*
llgram: diag. bis. each other

$$2x = AC$$

$$\frac{10}{\sin \theta} = \frac{8}{\sin 35}$$

$$10 \sin 35 = 8 \sin \theta$$

$$\frac{10 \sin 35}{8} = \frac{8 \sin \theta}{8}$$

$$\sin \theta = 45.8^\circ$$

$$180 - 45.8 - 35 = 99.2$$

$$\frac{8}{\sin 35} = \frac{x}{\sin 99.2}$$

$$x = 13.8$$

$$2(13.8)$$

$$AC = 27.5$$

HW 9.4 and Law of Sines Review

(skip #6)



*Test on Law of
Sines Tomorrow!*

Adv. Alg.-Trig.

Homework #9.4

1) 4240 ft

2) $36^{\circ}30'$

3) 70.4 inches

Practice Worksheet

14) 8.8cm

Law of Sines Review Ditto

Answers:

1) 25.3

6) skip

2) 3.9

7) 27.5cm

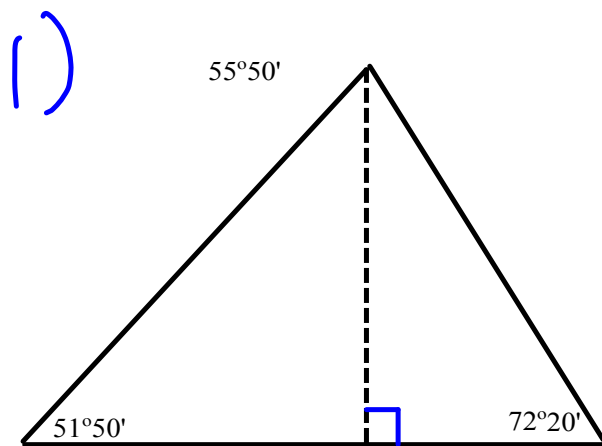
3) 19.5

8) 68.8cm

4) 14.6m

9) 73.1cm

5) 6943.2m



$$\frac{\sin 51^\circ 50'}{x} = \frac{\sin 55^\circ 50'}{4680}$$

$$x = 4447....$$

$$\frac{\sin 72^\circ 20'}{1} = \frac{h}{4447...}$$

$$h = 4237....$$

$$h = 4240$$

