March 21 Assignment (HW #35)

1. I will be pushing the Quiz to Thursday
2. I will be teaching the material for the original HW #35 tomorrow (Wednesday)
3. This assignment is a review assignment and will help to prepare you for the quiz

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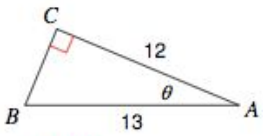
Part A: SOHCAHTOA (answer in red)

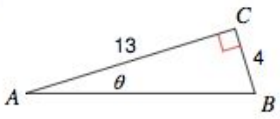
Find the measure of each angle indicated. Round to the nearest tenth.

1)



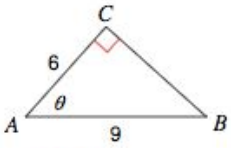
22.6°

2)



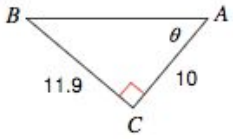
17.1°

3)



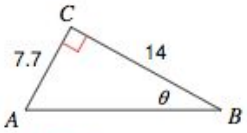
48.2°

4)



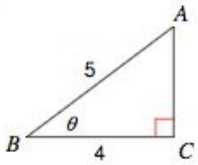
50°

5)



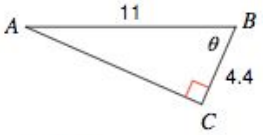
28.8°

6)



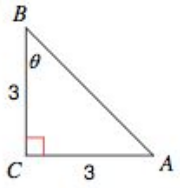
36.9°

7)



66.4°

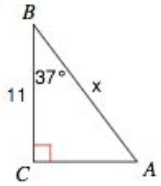
8)



45°

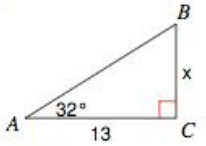
Find the measure of each side indicated. Round to the nearest tenth.

9)



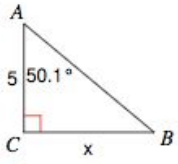
13.8

10)



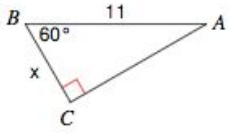
8.1

11)



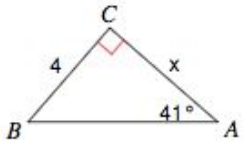
6

12)



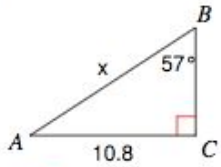
5.5

13)



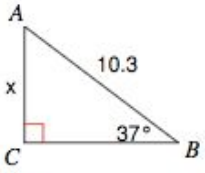
4.6

14)



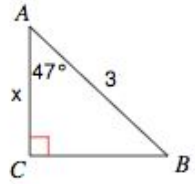
12.9

15)



6.2

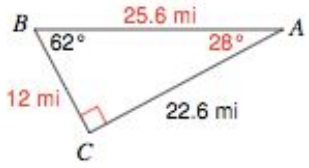
16)



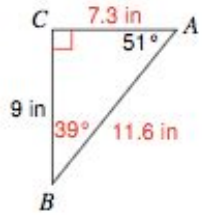
2

Solve each triangle. Round answers to the nearest tenth.

17)



18)



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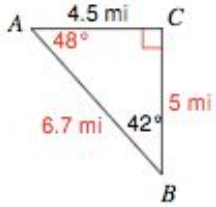

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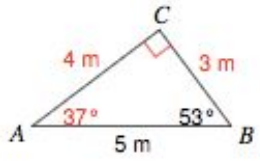

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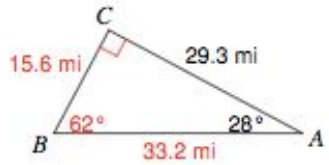

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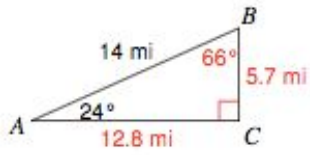

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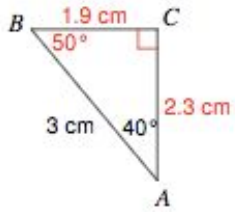

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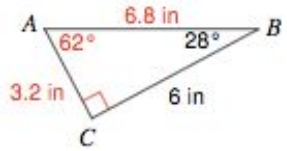
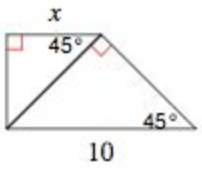


Part B: Special Right Triangles (answers in red)

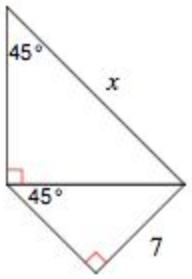
Find the missing side lengths. Leave your answers as radicals in simplest form.

1)



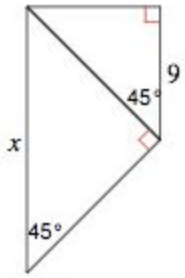
5

2)



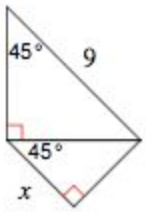
14

3)



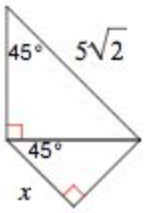
18

4)



$\frac{9}{2}$

5)

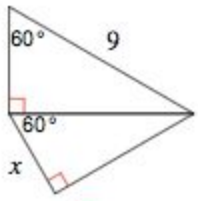


$\frac{5\sqrt{2}}{2}$

6)

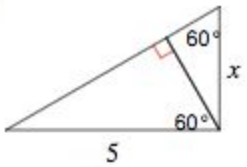
$\frac{9\sqrt{6}}{2}$

7)



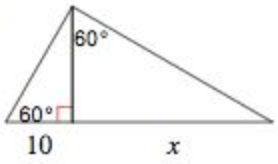
$\frac{9\sqrt{3}}{4}$

8)



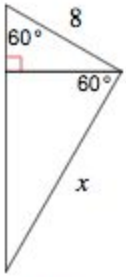
$\frac{5\sqrt{3}}{3}$

9)



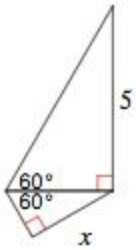
30

10)



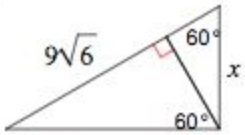
$8\sqrt{3}$

11)



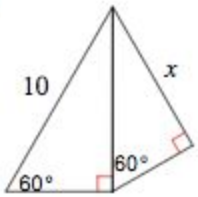
$\frac{5}{2}$

12)



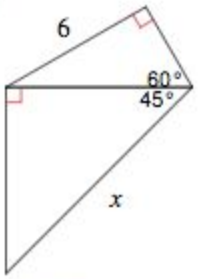
$6\sqrt{6}$

13)



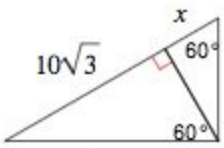
$\frac{15}{2}$

14)



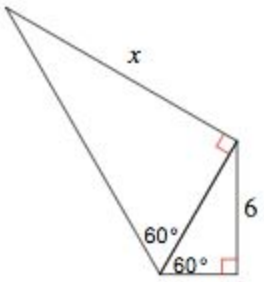
$4\sqrt{6}$

15)



$\frac{10\sqrt{3}}{3}$

16)



12

Part C: Angle of Elevation and Depression (answers at bottom)

1. Brian's kite is flying above a field at the end of 65 m of string. If the angle of elevation to the kite measures 70°, how high is the kite above Brian's head?

2. From an airplane at an altitude of 1200 m, the angle of depression to a building on the ground measures 28°. Find the distance from the plane to the building.

3. From a point on the ground 12 ft from the base of a flagpole, the angle of elevation of the top of the pole measures 53°. How tall is the flagpole?

4. From a plane flying due east at 265 m above sea level, the angles of depression of two ships sailing due east measure 35° and 25 °. How far apart are the ships?

5. A man flies a kite and lets out 100 feet of string. The angle of elevation of the string is 52°. How high off the ground is the kite? How far away is the man from the spot directly under the kite?

6. From the top of a vertical cliff 40 m high, the angle of depression of an object that is level with the base of the cliff is 34°. How far is the object from the base of the cliff?

7. An airplane takes off 200 yards in front of a 60 foot building. At what angle of elevation must the plane take off in order to avoid crashing into the building? Assume that the airplane flies in a straight line and the angle of elevation remains constant until the airplane flies over the building.

8. A 14 foot ladder is used to scale a 13 foot wall. At what angle of elevation must the ladder be situated in order to reach the top of the wall?

ANSWERS

1. $x = 61$ m
2. $x = 2256.9$ m
3. $x = 15.9$ ft
4. $x = 189.9$ m
5. Height of kite: 78 ft.; Ground distance from man to kite: 61.6 ft
6. $x = 59.3$ m
7. The plane must climb at an angle greater than 16.7°
8. $\theta = 68.2°$