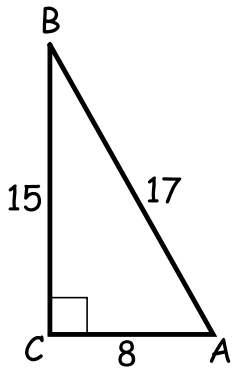
Geometry Unit 8: Right Triangle Trig Review

Name: _____ Date: _____

SOHCAHTOA:

1) a) Find the 3 trig ratios from Angle A and Angle B.



a) How do the ratios compare for the two angles?

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2) **Draw ΔCAT where ∠ATC = 90°, CA = 53, and CT = 28.**

a) What is the length of AT?

b) What is sin C?

c) What is tan A?

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3) **Draw ΔABC where ∠B = 90° and** $\sin A = \frac{12}{20}$.

a) What is the length of AB?

b) What is tan A?

c) What is cos A?

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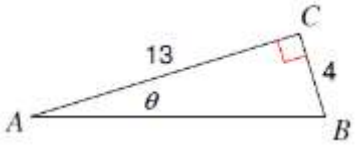
4) Solve for the missing side or angle using Trig Ratios (sin, cos, tan).

a)



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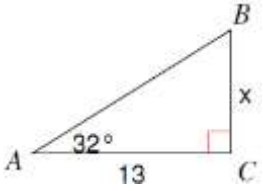

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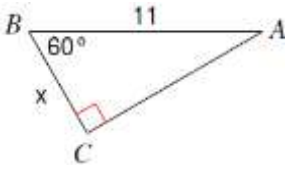

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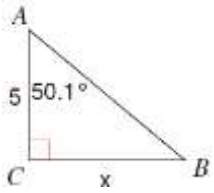

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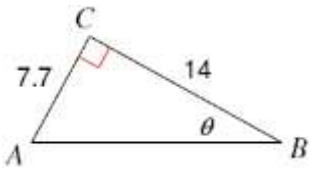
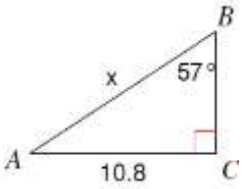


f)

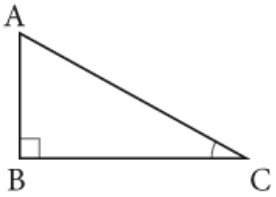


5) An 8 foot ladder is leaning against a wall so that the base is 5 feet from the base of the wall. What angle does the ladder make with the ground? Round to the nearest tenth.

6) A surveyor is standing 25 feet from a building and is looking at the top with an angle of elevation of 65°. How tall is the building? Round to the nearest tenth.

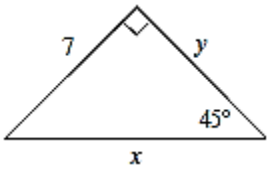
7) A kite is being flown using 150 yards of string. The kite has an angle of elevation with the ground of 65 degrees. How high above the ground is the kite?

8) In the triangle, BC = 12 cm and tan <C=0.75. What is the length of the hypotenuse?

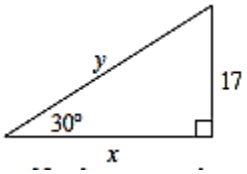


9. Find all missing sides using special right triangle patterns:

a.



b.



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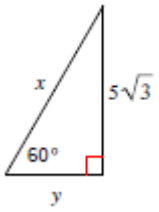

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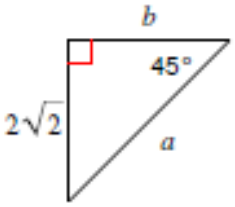

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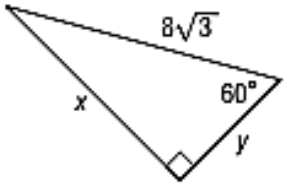
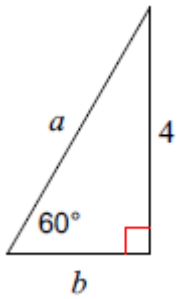


f.



10. If sin 47° = .73, what is the cosine of 43°? _____

11. If cos 82° = .14, what is the sine of 8°? _____

12. Find the value of θ for which sin θ = cos 22°. _____

13. Find the value of θ for which cos θ = sin 41°. _____

Answers:

1. Sin A = 15/17, Cos A = 8/17, Tan A =15/8, Sin B = 8/17, Cos B = 15/17, Tan B = 8/15
Part B. sin A = cos B, cos A = sin B, tan A is reciprocal of tanB
2a. 45 2b. sin C = 45/53 2c. tan A = 28/45
3. 16 3b. 12/16 3c. 16/20
4a. 17.9 3b. 8.1 3c. 5.5 3d. 6.0 3e. 28.8 3f. 12. 9
5. 51.3
6. 53.6 ft
7. 135.9 yd
8. 15 cm
9a. 7, $7\sqrt{2}$ 9b. $17\sqrt{3}$, 34 9c. 5, 10 9d. $2\sqrt{2}$, 4 9e. $4\sqrt{3}$, 12 9d. $\frac{4\sqrt{3}}{3}, \frac{8\sqrt{3}}{3}$
10. 0.73
11. 0.14
12. sin 68
13. cos 49