Degrees!

Name **Key**   Date _____ Pd ___

9.4 Tangent Trigonometric Ratio CYU

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Tangent ratio	1, 2	3 - 8	
Exact answer	1, 3 – 8		
Rounded answer	1, 3 - 8	9 - 11	
Error Analysis		2	
Real- World Application			12 - 13
Inverse Tangent		9 - 11	

1. Find the tangent of the acute angles in the triangle provided. Write each answer as a fraction AND as a decimal rounded to four decimal places.
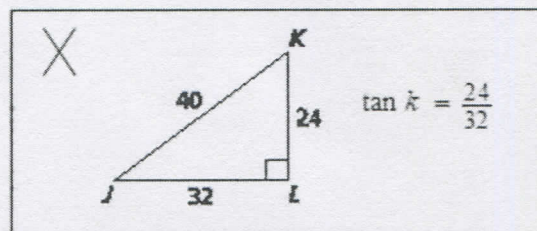
$\tan S = \dfrac{10}{24} \approx 0.417$

$\tan R = \dfrac{24}{10} \approx 2.4$
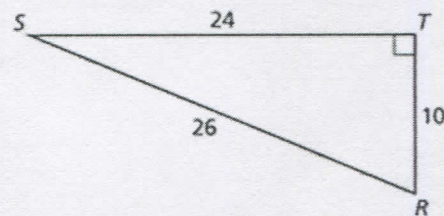
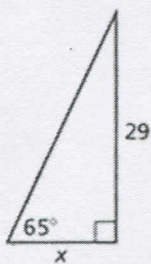2. Describe and correct the error in writing the statement of the tangent ratio for the given figure.

Flipped the ratio

$\tan K = \dfrac{32}{24}$

tan k = $\dfrac{24}{32}$

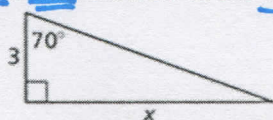*Find the value of x. Leave your answer exact and rounded to the nearest tenth.*

3.

$X = \dfrac{29}{\tan 65}$

≈ 13.5
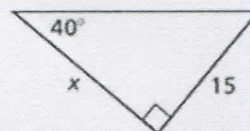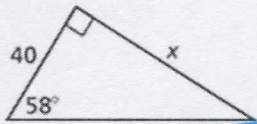
4.

$3\tan 70 = X$

$8.2 \approx X$

5.

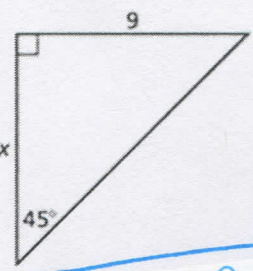$X = \dfrac{15}{\tan 40}$

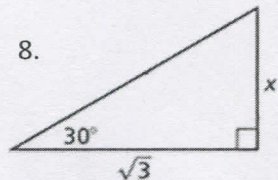≈ 17.9

6.

$$X = 40(\tan 58)$$
$$\approx 64.0$$

7.

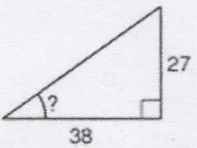$$X = \frac{9}{\tan 45}$$
$$\approx 9$$

8.

$$X = (\sqrt{3})(\tan 30)$$
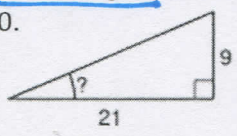$$\approx 1$$

Find the indicated angle measure to the nearest degree. Show the set up to earn full credit.
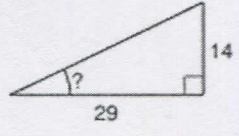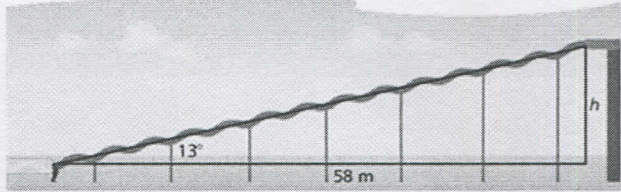
9.

35°

10.

23°

11.

26°

Real World Application

12. You are measuring the height of a water slide. You stand 58 meters from the base of the slide. You measure the angle of elevation from the ground to the top of the water slide to be 13°. Find the height h of the slide to the <u>nearest meter</u>.

$\approx 13 \text{ m high}$

13. A surveyor is standing 30 feet from the base of a tall building. The surveyor measures the angle of elevation from the ground to the top of the building to be 65°. Find the height, *h*, of the building to the nearest foot.
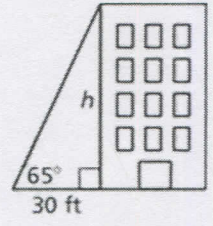
$$h = 30(\tan 65)$$
$$\approx 64 \text{ ft}$$

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*
Rate your mastery level!
How confident are you with the skills this CYU covered? Circle the score you would give yourself.

1	2		3	4	5		6	7		8
Basic			Intermediate				Advanced			Solved ALL!