Geometry   Name_____

Right Triangle Trigonometry - Finding Side Lengths   Date_____

Step One: On each diagram below, label each side according to the position of the reference angle. Your options are: Opposite, Adjacent, Hypotenuse.
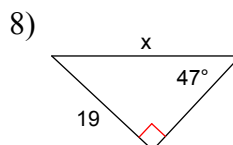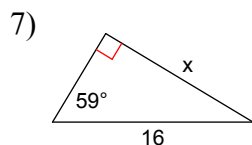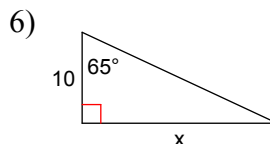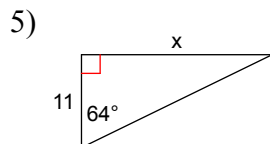
1)

2)

3)

4)

Step Two: Complete the same process as practiced in Step One. Then, highlight the two sides that have information provided. Once completed, determine which Acronym you will utilize to set up your equation. Your options are: "SOH", "CAH", and "TOA".

5)

6)

7)

8)

Step Three: Complete the same processes as practiced in Steps One and Two. Then, set up your equation to solve for the missing side length.

9)

15 — 58°, x

10)

x — 49° — 20

Step Four: Complete the same processes as practiced in Steps One, Two, and Three. After you have set up your equation, find the measure of the indicated side to the nearest tenth. (Utilize the examples in your notebook)

11)

18 — 21° — x

12)

51° — 17 — x

Name_____

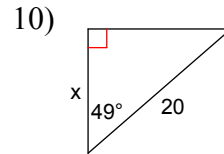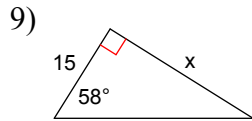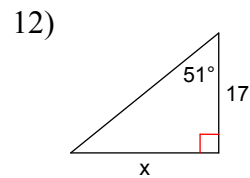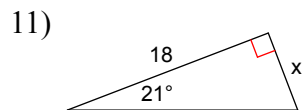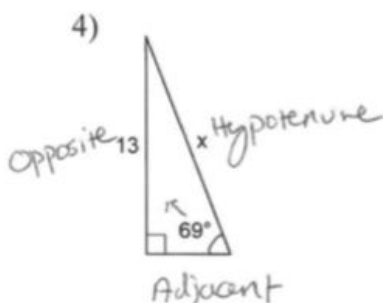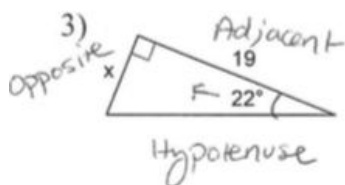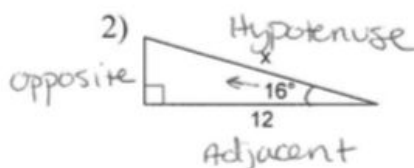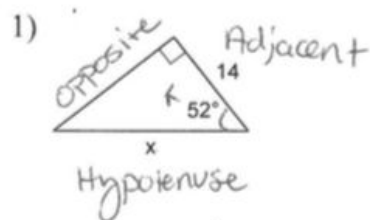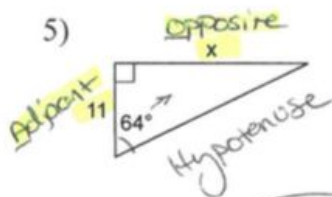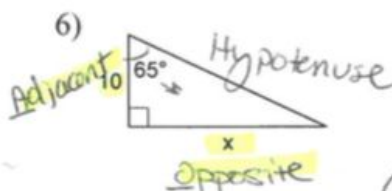# Right Triangle Trigonometry - Finding Side Lengths

Date_____

Step One: On each diagram below, label each side according to the position of the reference angle. Your options are: Opposite, Adjacent, Hypotenuse.

1)

Opposite

Adjacent
14

52°

x

Hypotenuse

2)

Hypotenuse
x

Opposite

← 16°

12

Adjacent

3)

Opposite x

Adjacent
19

← 22°

Hypotenuse

4)

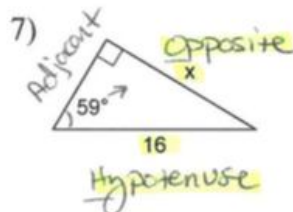Opposite 13

x Hypotenuse

69°

Adjacent

Step Two: Complete the same process as practiced in Step One. Then, highlight the two sides that have information provided. Once completed, determine which Acronym you will utilize to set up your equation. Your options are: "SOH", "CAH", and "TOA".
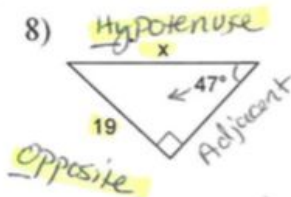
5)

Opposite
x

Adjacent
11 64°

Hypotenuse

"TOA"

6)

Adjacent 10 65°

Hypotenuse

x

Opposite

"TOA"

7)

Adjacent

Opposite
x

59°

16

Hypotenuse
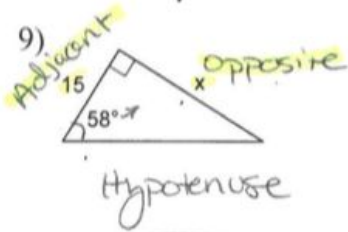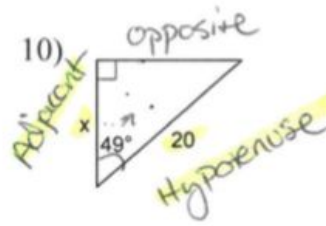
"SOH"

8)

Hypotenuse
x

← 47°

19

Adjacent

Opposite

"SOH"

Step Three: Complete the same processes as practiced in Steps One and Two. Then, set up your equation to solve for the missing side length.

9)

Adjacent
15
Opposite
x
58°
Hypotenuse

"TOA"

$$Tan(\theta) = \frac{opposite}{adjacent}$$

$$Tan(58°) = \frac{x}{15}$$

10)

opposite
Adjacent
x
49° 20
Hypotenuse
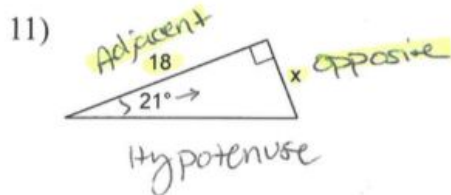
"CAH"

$$cos(\theta) = \frac{adjacent}{Hypotenuse}$$

$$cos(49°) = \frac{x}{20}$$

Step Four: Complete the same processes as practiced in Steps One, Two, and Three. After you have set up your equation, find the measure of the indicated side to the nearest tenth. (Utilize the examples in your notebook)
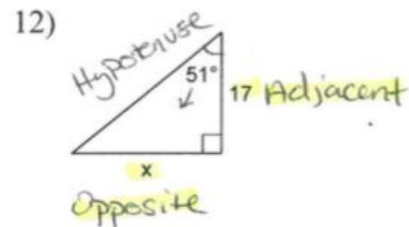
11)

Adjacent
18
x Opposite
21°→
Hypotenuse

"TOA"

$$Tan(\theta) = \frac{opposite}{adjacent}$$

$$(18)Tan(21°) = \frac{x}{18}(18)$$

$$6.9 = x$$

12)

Hypotenuse
51°
17 Adjacent
x
Opposite

"TOA"

$$Tan(\theta) = \frac{opposite}{adjacent}$$

$$(17)Tan(51°) = \frac{x}{17}(17)$$

$$21.0 = x$$