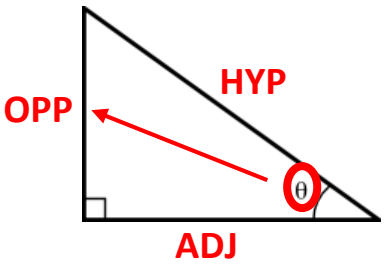
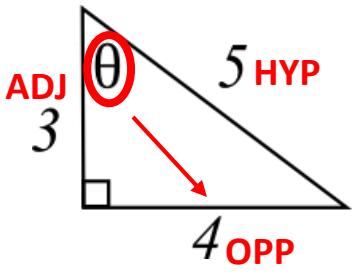
Unit 5-Lesson 1 Introduction to Trig Functions

- Trig Functions are ratios used to find missing ANGLES or SIDES in triangles
  - We will focus on three trig functions →
    - SIN (sine)
    - COS (cosine)
    - TAN (tangent)
- When finding missing sides/angles, you will be required to label the sides of the triangle according to their relationship to a given angle. The sides will either be:
  1. OPPOSITE (OPP) (if it doesn't touch the angle)
  2. ADJACENT (ADJ) (if it isn't the hypotenuse but touches the angle)
  3. HYPOTENUSE (HYP) (if it directly across from the right angle)
- First, identify the hypotenuse, then the other two sides will be easier to label
- In trig functions, the variable θ (the Greek letter theta) is often used instead of x

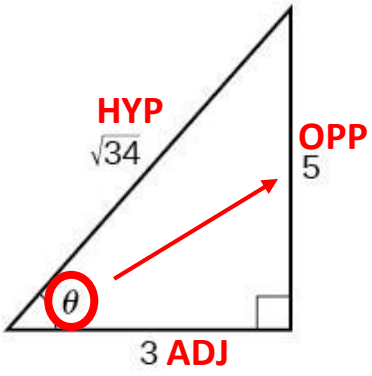
1. In the right triangle shown here, identify each of the sides as opposite, adjacent, or hypotenuse based on their relation to the angle θ



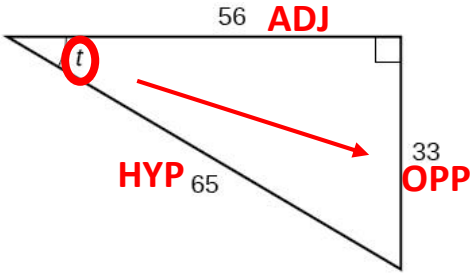
2. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the angle θ.
   - Opposite = 4
   - Adjacent = 3
   - Hypotenuse = 5



3. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the angle θ.
   - Opposite = 5
   - Adjacent = 3
   - Hypotenuse = $\sqrt{34}$

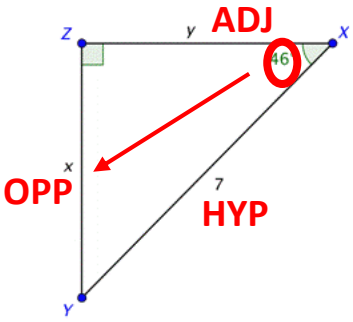


4. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the angle t.



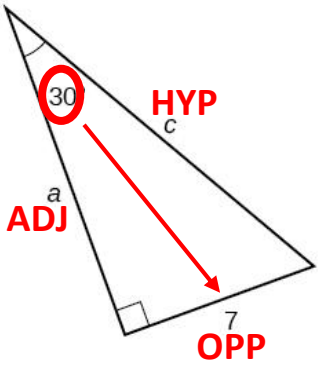
- Opposite = 33
- Adjacent = 56
- Hypotenuse = 65

5. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the 46° angle.



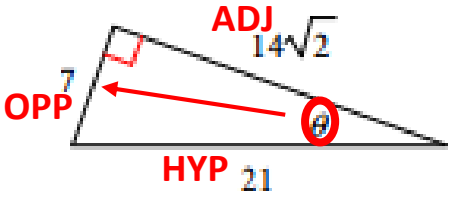
- Opposite = X
- Adjacent = Y
- Hypotenuse = 7

6. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the 46° angle.



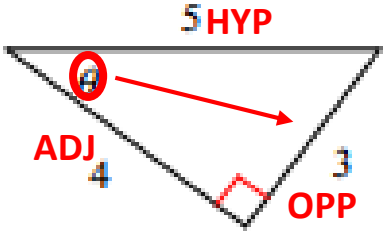
- Opposite = 7
- Adjacent = A
- Hypotenuse = C

7. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the angle θ.



- Opposite = 7
- Adjacent = $14\sqrt{2}$
- Hypotenuse = 21

8. Given the right triangle to the right, identify which side represents the opposite, adjacent or hypotenuse of the angle θ.

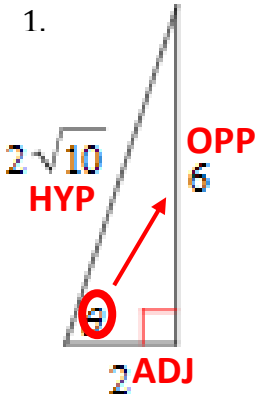


- Opposite = 3
- Adjacent = 4
- Hypotenuse = 5

Unit 5-Lesson 2 Practice – Intro to Trig: Identifying Triangle Sides

Identify each side of the triangle below based on the angle θ.

1.

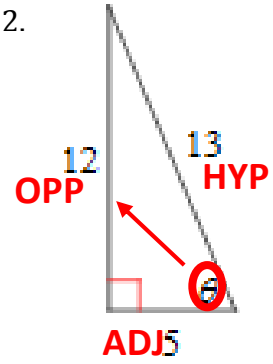


Opposite = 6

Adjacent = 2

Hypotenuse = $2\sqrt{10}$

2.

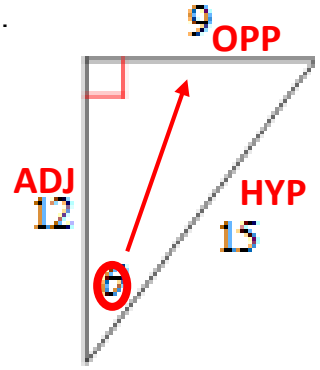


Opposite = 12

Adjacent = 5

Hypotenuse = 13

3.

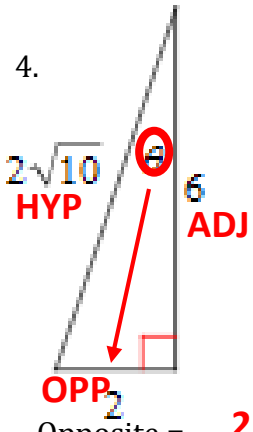


Opposite = 9

Adjacent = 12

Hypotenuse = 15

4.

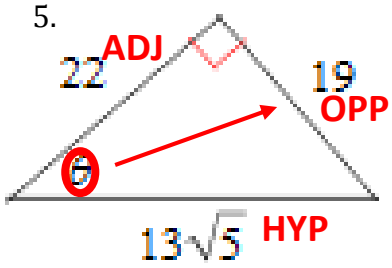


Opposite = 2

Adjacent = 6

Hypotenuse = $2\sqrt{10}$

5.

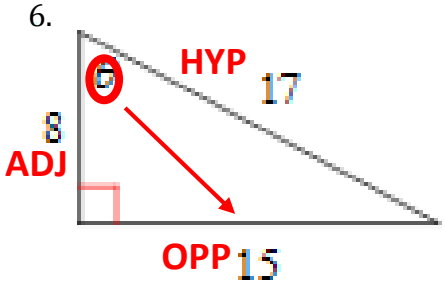


Opposite = 19

Adjacent = 22

Hypotenuse = $13\sqrt{5}$

6.

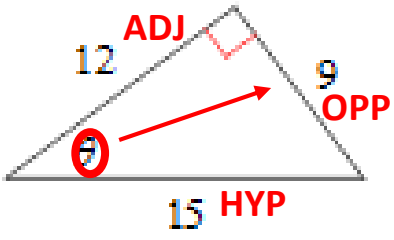


Opposite = 15

Adjacent = 8

Hypotenuse = 17

7.

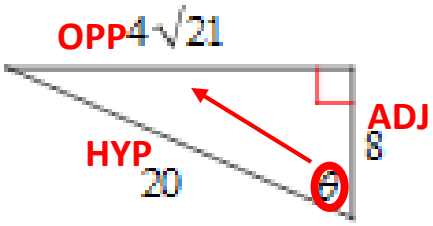


Opposite = 9

Adjacent = 12

Hypotenuse = 15

8.

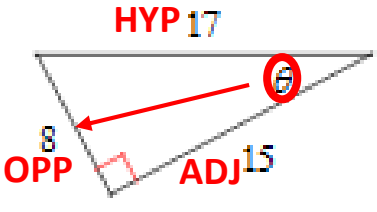


Opposite = $4\sqrt{21}$

Adjacent = 8

Hypotenuse = 20

9.



Opposite = 8

Adjacent = 15

Hypotenuse = 17