**10.4 Tangent Ratio**

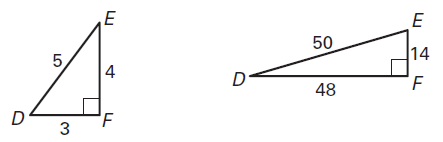
**Goal: Use the tangent ratio to find missing sides of right triangles.**

**Trigonometric ratio:** a ratio of the lengths of two sides of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangle

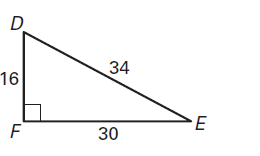
|  |
| --- |
| **Tangent Ratio** |
| tan = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

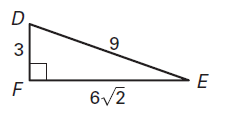
**Find tan D and tan E as fractions.**

a) tan D = \_\_\_\_\_\_ b) tan D = \_\_\_\_\_\_

 tan E = \_\_\_\_\_\_ tan E = \_\_\_\_\_\_

c) tan D = \_\_\_\_\_\_ d) tan D = \_\_\_\_\_\_

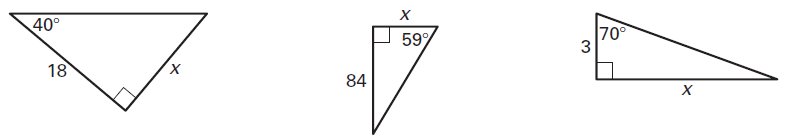
 tan E = \_\_\_\_\_\_ tan E = \_\_\_\_\_\_

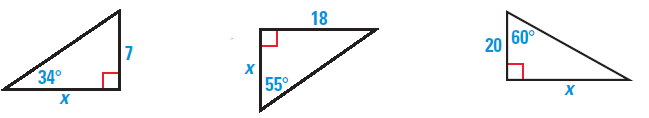


**Use a calculator to approximate the value to two decimal places.**

a) b) c) d)

**Use the tangent ratio to find the value of x. Round to the nearest tenth.**

a) x = \_\_\_\_\_\_\_ b) x = \_\_\_\_\_\_\_ c) x = \_\_\_\_\_\_\_

d) x = \_\_\_\_\_\_\_ e) x = \_\_\_\_\_\_\_ f) x = \_\_\_\_\_\_\_

**10.5 Sine and Cosine Ratios**

**Goal: Use the sine and cosine ratios to find missing sides of right triangles.**

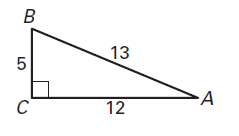
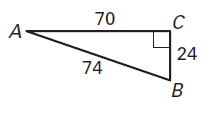
|  |  |
| --- | --- |
| **Sine Ratio** | **Cosine Ratio** |
| sin = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | cos = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**To remember the trigonometric ratios, just remember \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Find the indicated ratios. Write your answer as fractions.**

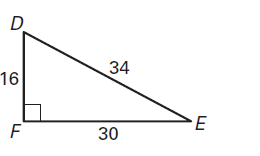
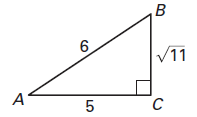
a) sin A = \_\_\_\_\_\_\_ sin B = \_\_\_\_\_\_\_ b) sin A = \_\_\_\_\_\_\_ sin B = \_\_\_\_\_\_\_

cos A = \_\_\_\_\_\_\_ cos B = \_\_\_\_\_\_\_ cos A = \_\_\_\_\_\_\_ cos B = \_\_\_\_\_\_\_



c) sin D = \_\_\_\_\_\_\_ sin E = \_\_\_\_\_\_\_ d) sin A = \_\_\_\_\_\_\_ sin B = \_\_\_\_\_\_\_

cos D = \_\_\_\_\_\_\_ cos E = \_\_\_\_\_\_\_ cos A = \_\_\_\_\_\_\_ cos B = \_\_\_\_\_\_\_

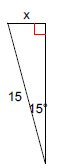


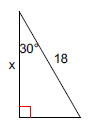
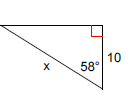
**Use a calculator to approximate the value to two decimal places.**

a) b) c) d)

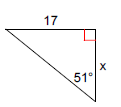
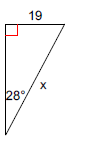
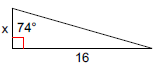
e) f) g) h)

**Find the value of x. Round to the nearest tenth.**

a) x = \_\_\_\_\_\_\_ b) x = \_\_\_\_\_\_\_ c) x = \_\_\_\_\_\_\_

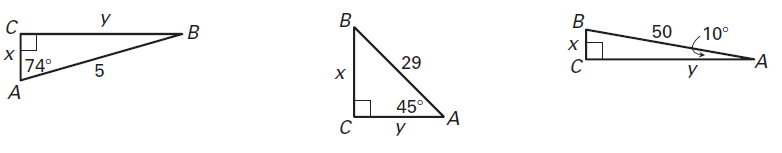


d) x = \_\_\_\_\_\_\_ e) x = \_\_\_\_\_\_\_ f) x = \_\_\_\_\_\_\_



**Find the lengths of the legs of the triangle. Round your answers to the nearest tenth.**

a) x = \_\_\_\_\_\_\_ y = \_\_\_\_\_\_\_ b) x = \_\_\_\_\_\_\_ y = \_\_\_\_\_\_\_ c) x = \_\_\_\_\_\_\_ y = \_\_\_\_\_\_\_



**10.6 Solving Right Triangles – Day 1**

**Goal: Use inverse trigonometric functions to find missing angles**

**Inverse tangent**: a function available on a calculator as , which can be used to find the measure of an \_\_\_\_\_\_\_\_\_\_\_\_ when you know the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the angle

**Inverse sine**: a function available on a calculator as , which can be used to find the measure of an \_\_\_\_\_\_\_\_\_\_\_\_ when you know the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the angle

**Inverse cosine**: a function available on a calculator as , which can be used to find the measure of an \_\_\_\_\_\_\_\_\_\_\_\_ when you know the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the angle

|  |
| --- |
| **To find missing sides we use: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **To find missing angles we use: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

**is an acute angle. Use a calculator to approximate the measure of to the nearest degree.**

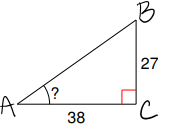
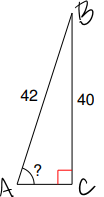
a) b) c)

d) e) f)

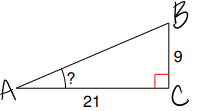
g) h) i)

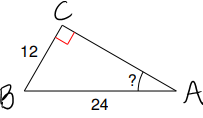
**Use the inverse trigonometry functions to find the measure of each missing angle. Round to the nearest degree.**

a) b)

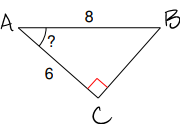


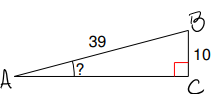
c) d)





e) f)





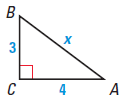
**10.6 Solving Right Triangles – Day 2**

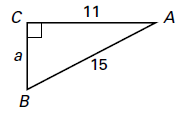
**Goal: Use inverse trigonometric functions to solve right triangles.**

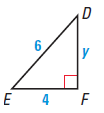
**Solve a right triangle:** to find the measures of both acute \_\_\_\_\_\_\_\_\_\_\_ and all three \_\_\_\_\_\_\_\_\_\_\_\_

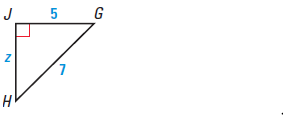
**Solve the right triangle. Find all missing sides and angles. Round sides to the nearest tenth and angles to the nearest degree.**

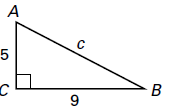
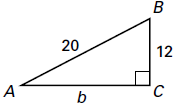
a) x = \_\_\_\_\_\_ b) a = \_\_\_\_\_\_





c) y = \_\_\_\_\_\_ d) z = \_\_\_\_\_\_



e) c = \_\_\_\_\_\_ f) b = \_\_\_\_\_\_