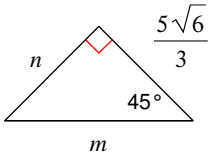
Pre-Calculus Name_____

Special Right Triangles

Find the missing side lengths. Leave your answers as radicals in simplest form.

1)



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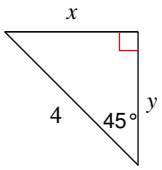

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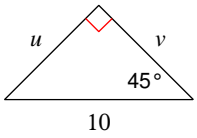

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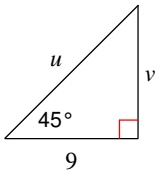

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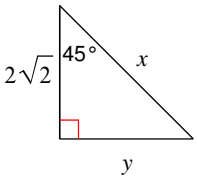

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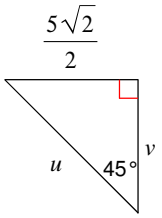

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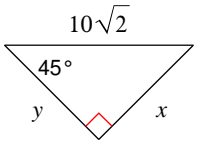

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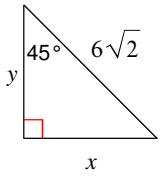

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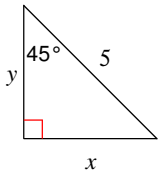

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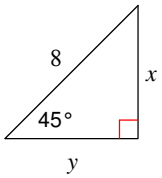

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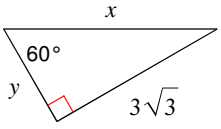

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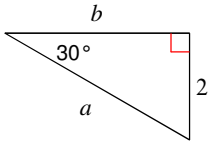

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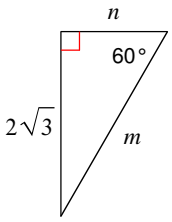

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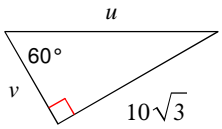

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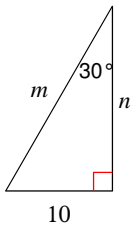

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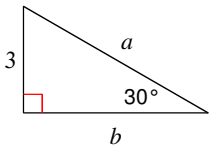

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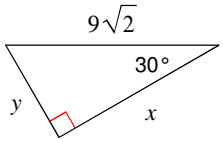

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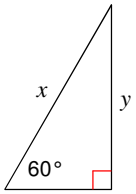
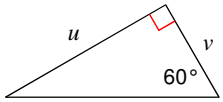


$\frac{10\sqrt{3}}{3}$

19)



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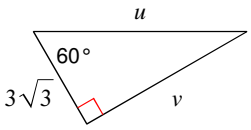
20)



Pre-Calculus Name_____

Trigonometry Part I

Find the value of each trigonometric ratio to the nearest ten-thousandth.

1) cos 71°

2) sin 58°

3) tan 35°

4) cos 1°

5) sin 69°

6) cos 3°

7) sin 48°

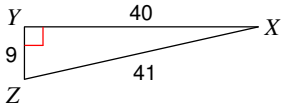
8) cos 82°

9) tan 49°

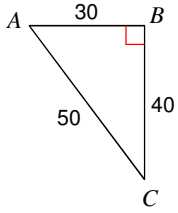
10) tan 87°

Find the value of each trigonometric ratio.

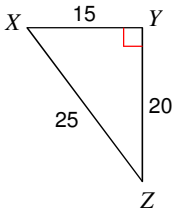
11) sin *Z*



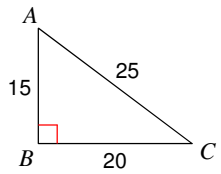
12) sin *A*



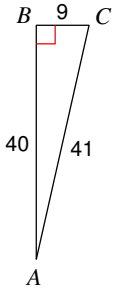
13) tan *Z*



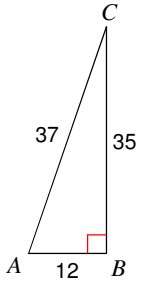
14) tan *A*



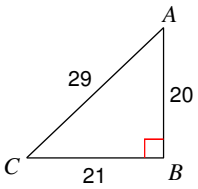
15) cos *A*



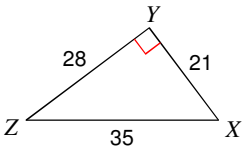
16) sin *C*



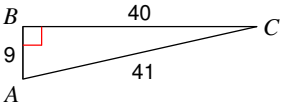
17) tan C



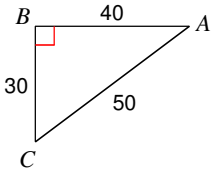
18) cos Z



19) cos A



20) tan A

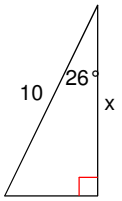


Pre-Calculus Name_____

Trigonometry Part II

Find the missing side. Round to the nearest tenth.

1)



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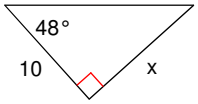
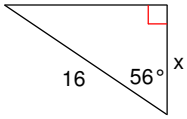


3)



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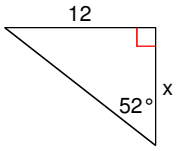

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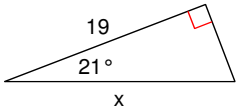

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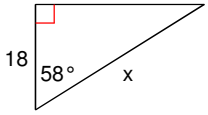

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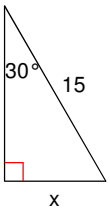

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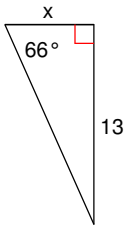

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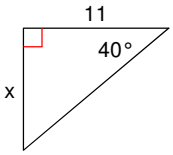

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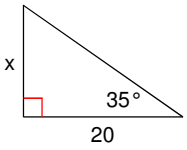

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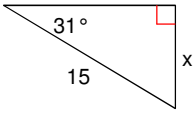

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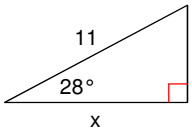

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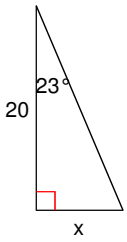

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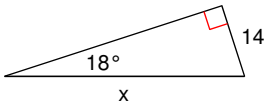

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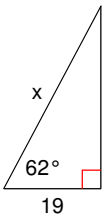

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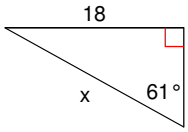

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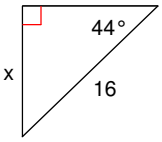

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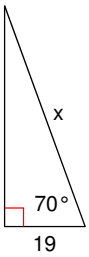

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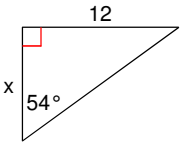

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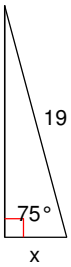


Pre-Calculus Name_____

Trigonometry Part III

Find each angle measure to the nearest degree.

1) sin A = 0.4067

2) sin A = 0.6018

3) cos V = 0.7660

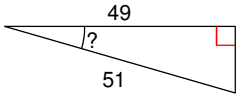
4) cos A = 0.9397

5) tan B = 0.6494

6) tan B = 2.0503

Find the measure of the indicated angle to the nearest degree.

7)



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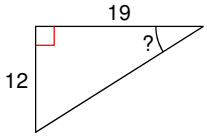

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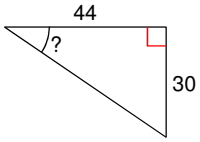

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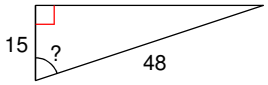

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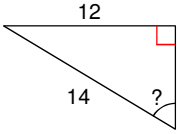

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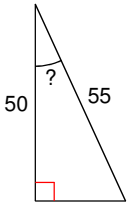

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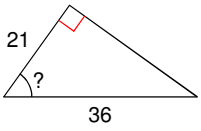

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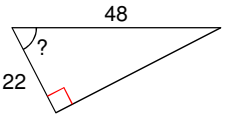
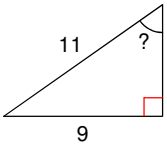


15)



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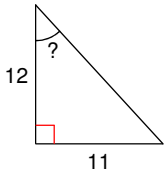
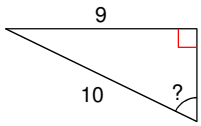
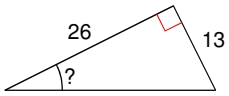


17)



18)



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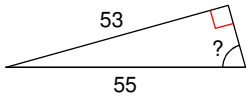

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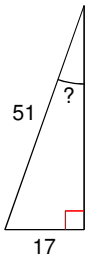
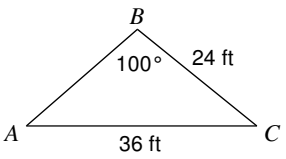


Pre-Calculus Name_____

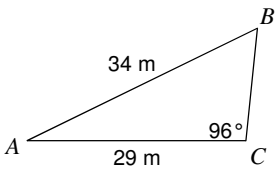
Law of Sines

Find each measurement indicated. Round your answers to the nearest hundredth.

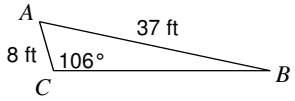
1) Find $m\angle A$



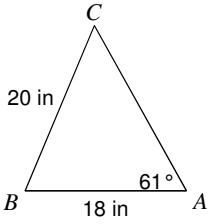
2) Find $m\angle B$



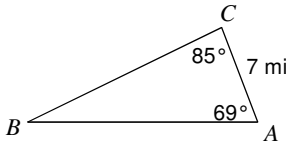
3) Find $m\angle B$



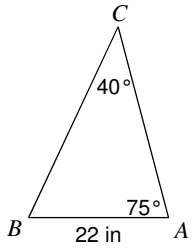
4) Find $m\angle C$



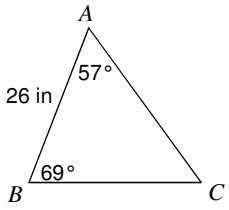
5) Find BC



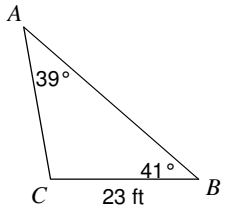
6) Find BC



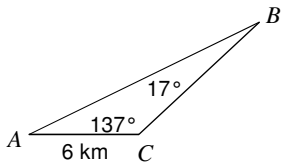
7) Find AC



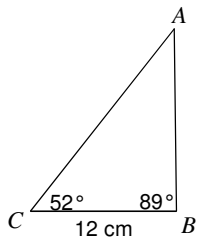
8) Find AC



9) Find AB

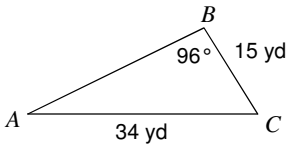


10) Find AB



Find all missing measures. Round your answers to the nearest hundredth.

11)



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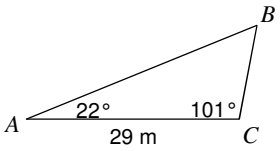
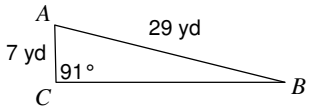
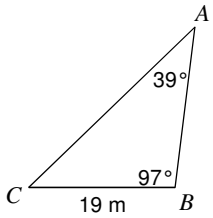


13)



14)

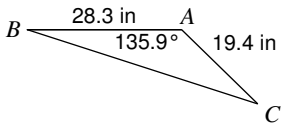


Pre-Calculus Name_____

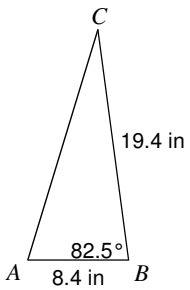
Law of Cosines

Find each measurement indicated. Round your answers to the nearest hundredth.

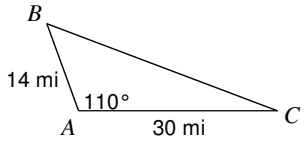
1) Find BC



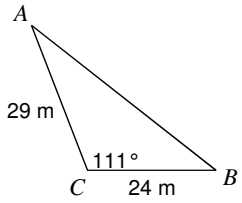
2) Find AC



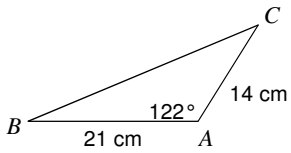
3) Find BC



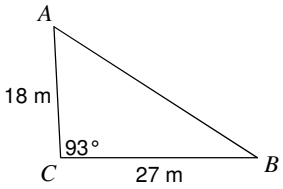
4) Find AB



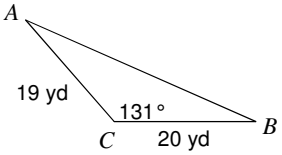
5) Find $m\angle B$



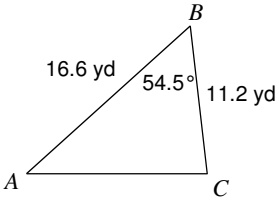
6) Find $m\angle A$



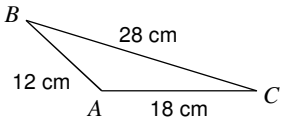
7) Find $m\angle A$



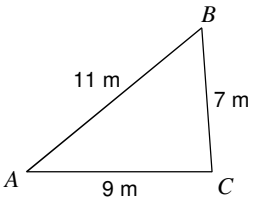
8) Find $m\angle C$



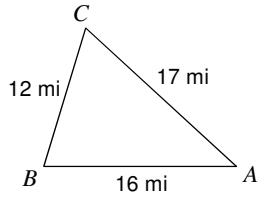
9) Find $m\angle C$



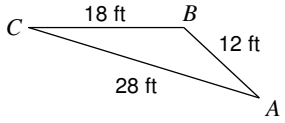
10) Find $m\angle C$



11) Find $m\angle A$

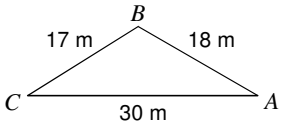


12) Find $m\angle B$

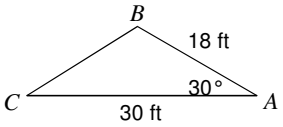


Find all missing measures. Round your answers to the nearest hundredth.

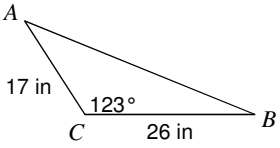
13)



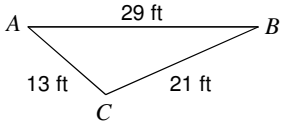
14)



15)



16)



Pre-Calculus Name_____

Degrees & Radians

Convert each degree measure into radians.

1) 145°

2) 330°

3) 15°

4) -55°

Convert each radian measure into degrees.

5) $\frac{5\pi}{4}$

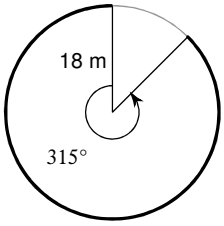
6) $\frac{2\pi}{3}$

7) $-\frac{7\pi}{6}$

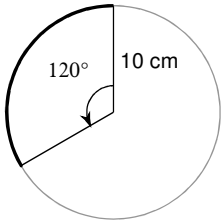
8) $\frac{\pi}{2}$

Find the length of each arc.

9)



10)

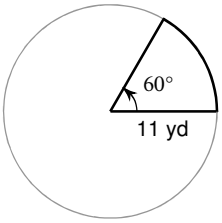


11) $r = 15$ m, $\theta = 270°$

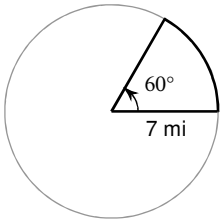
12) $r = 14$ yd, $\theta = 90°$

Find the area of each sector.

13)



14)



15) $r = 4$ cm, $\theta = 270°$

16) $r = 13$ yd, $\theta = 90°$

Find the length of each chord given the central angle and the radius.

17) r = 4 cm, $\theta = 35°$

18) r = 6 in, $\theta = 155°$

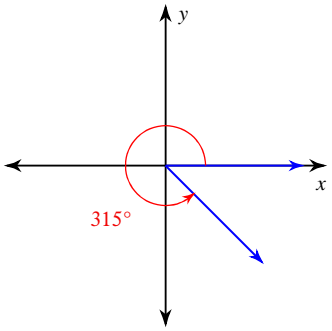
19) Two children are sitting on a merry-go-round. One is 1.5 meters from the center, and one is 1 meter from the center.
   a. Sketch a picture of this situation. Include labels. (No credit without labels)
   b. How many radians has each child rotated through after 3 revolutions?
   c. How far has each child traveled after 3 revolutions?

Pre-Calculus Name_____

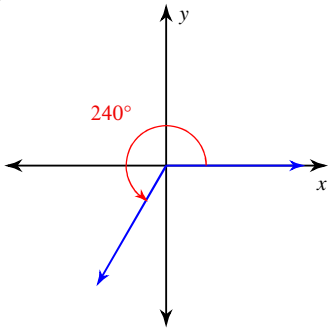
Trigonometric Ratios on the Unit Circle

Find the exact value of each trigonometric function.

1) cos θ



2) tan θ



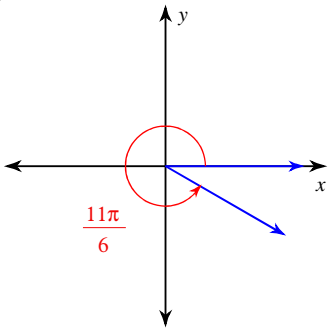
3) tan 330°

4) sin 120°

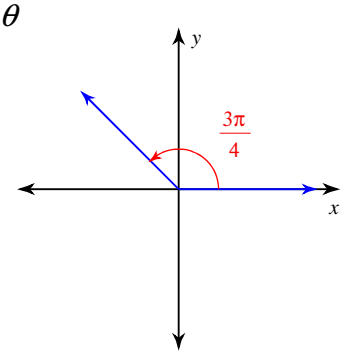
5) sin 180°

6) cos 30°

7) sin θ



8) cos θ



9) $\sin \frac{11\pi}{6}$

10) $\tan \frac{5\pi}{3}$

11) cos 0

12) $\tan \frac{\pi}{4}$

13) Assuming a clock is on a unit circle, what are the radian measures of 6 o'clock and 2 o'clock?

14) Assuming a clock is on a unit circle, what are the coordinates of 6 o'clock and 2 o'clock?

15) What are the coordinates of a point on a circle with radius 7 units given that the point forms a central angle that measures $\frac{15}{16}\pi$?