Pre Calculus 11 Name_____

Trigonometry Review

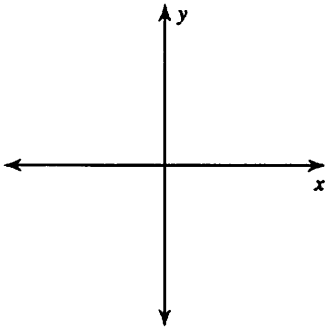
State the quadrant in which the terminal side of each angle lies.

1) 350°

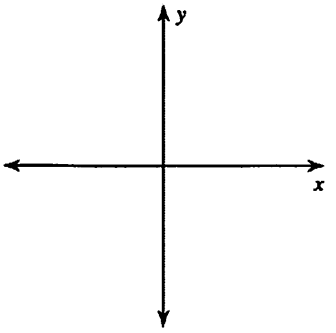
2) 285°

Draw an angle with the given measure in standard position.

3) 230°



4) 310°



Find the reference angle.

5) -310°

6) −240°

7) 195°

8) 140°

Solve each equation for $0 \le \theta < 360$.

9) $\tan\theta = \frac{\sqrt{3}}{3}$

10) $\sin\theta = \frac{\sqrt{3}}{2}$

11) $\sin\theta = -\frac{1}{2}$

12) $\cos\theta = 0$

13) $\cos\theta = \frac{\sqrt{3}}{2}$

14) $\sqrt{3} = \tan\theta$

Find the exact value of each trigonometric function.

15) sin 135°

16) sin 180°

17) cos 300°

18) cos 150°

19) tan 90°

20) tan 60°

Use the given point on the terminal side of angle θ to find the value of the trigonometric function indicated and the value of θ.

21) sin θ; $(4, 3)$

22) sin θ; $(\sqrt{15}, -7)$

23) cos θ; $(-4, -3)$

24) cos θ; $(-\sqrt{11}, 5)$

25) tan θ; $(12, -13)$

26) tan θ; $(17, 2)$

State the number of possible triangles that can be formed using the given measurements.

27) $m\angle A = 122°$, $c = 28$ cm, $a = 16$ cm

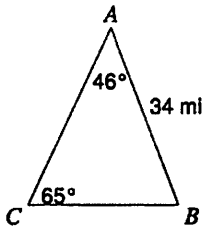
28) $m\angle B = 15°$, $a = 11$ ft, $b = 9$ ft

29) $m\angle A = 24°$, $c = 17$ in, $a = 11$ in

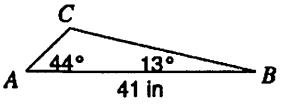
30) $m\angle C = 49°$, $b = 35$ mi, $c = 30$ mi

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

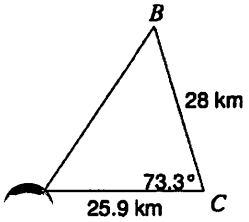
31) Find BC



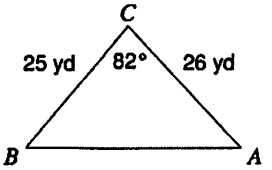
32) Find AC



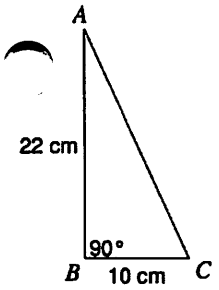
33) Find AB



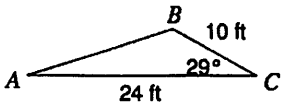
34) Find AB



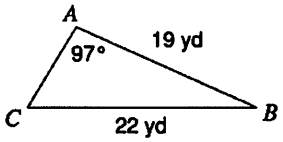
35) Find $m\angle C$



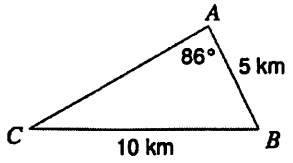
36) Find $m\angle A$



37) Find $m\angle C$

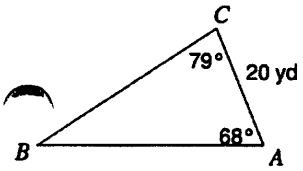


38) Find $m\angle C$



Solve each triangle. Round your answers to the nearest tenth.

39)



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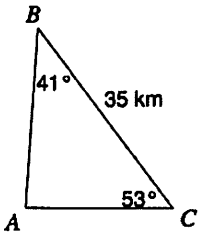

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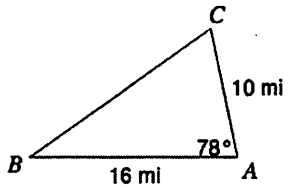
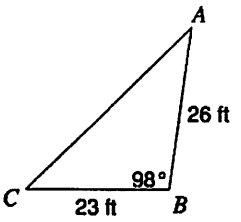


42)



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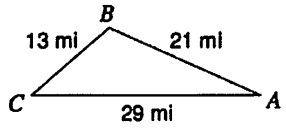
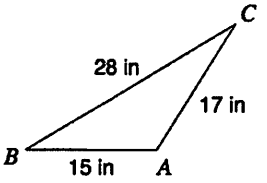


44)



Solve for all possible triangles. Round your answers to the nearest tenth.

45) $m\angle C = 60°$, $b = 33$ m, $c = 29$ m

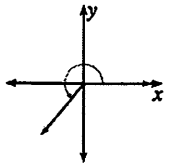
46) $m\angle B = 35°$, $a = 25$ mi, $b = 20$ mi

Answers to Trigonometry Review

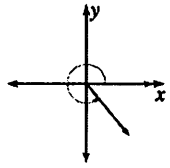
1) IV

2) IV

3)



4)



5) 50°

6) 60°

7) 15°

8) 40°

9) {30, 210}

10) {60, 120}

11) {210, 330}

12) {90, 270}

13) {30, 330}

14) {60, 240}

15) $\frac{\sqrt{2}}{2}$

16) 0

17) $\frac{1}{2}$

18) $-\frac{\sqrt{3}}{2}$

19) Undefined

20) $\sqrt{3}$

21) $\frac{3}{5}$, 36.9°

22) $-\frac{7}{8}$, 299°

23) $-\frac{4}{5}$, 216.9°

24) $-\frac{\sqrt{11}}{6}$, 123.6°

25) $-\frac{13}{12}$, 312.7°

26) $\frac{2}{17}$, 6.7°

27) None

28) Two triangles

29) Two triangles

30) Two triangles

31) 27 mi

32) 11 in

33) 32.2 km

34) 33.5 yd

35) 65.6°

36) 17.7°

37) 59°

38) 29.9°

39) $m\angle B = 33°$, $c = 36$ yd, $a = 34$ yd

40) $m\angle A = 86°$, $b = 23$ km, $c = 28$ km

41) $m\angle B = 35°$, $m\angle C = 67°$, $a = 17$ mi

42) $m\angle C = 44°$, $m\angle A = 38°$, $b = 37$ ft

43) $m\angle B = 115°$, $m\angle C = 41°$, $m\angle A = 24°$

44) $m\angle A = 122°$, $m\angle B = 31°$, $m\angle C = 27°$

45) $m\angle A = 39.8°$, $m\angle B = 80.2°$, $a = 21.4$ m
Or $m\angle A = 20.2°$, $m\angle B = 99.8°$, $a = 11.6$ m

46) $m\angle C = 99.2°$, $m\angle A = 45.8°$, $c = 34.4$ mi
Or $m\angle C = 10.8°$, $m\angle A = 134.2°$, $c = 6.5$ mi