

Quarter 4 Test Review

Simplify each expression.

1) $\frac{5}{m+10} \cdot \frac{2m+20}{2}$

A) $\frac{4}{m+9}$

B) $10(m+5)$

C) $\frac{m+1}{10}$

D) 5

2) $\frac{1}{x+8} \div \frac{x+2}{x^2+15x+56}$

A) $\frac{6}{x+4}$

B) $\frac{x+7}{x+2}$

C) $\frac{2x}{x-10}$

D) $\frac{5}{3}$

3) $\frac{6}{a+3} + \frac{4}{a+4}$

A) $\frac{9a^2-21a-3}{(a-3)(a-2)}$

B) $\frac{8a+1}{2a-5}$

C) $\frac{10a+36}{(a+4)(a+3)}$

D) $\frac{7a+36-a^2}{(a+4)(a+3)}$

Solve each equation. Remember to check for extraneous solutions.

4) $\frac{1}{v+8} = \frac{2}{v-6} - \frac{8}{v^2+2v-48}$

A) $\{-8\}$

B) $\{0\}$

C) $\{-14\}$

D) $\{3\}$

Identify the holes and vertical asymptotes of each.

5) $f(x) = \frac{x^2+2x}{2x^2+6x+4}$

A) Vertical Asym.: $x=0, x=-2$
Holes: None

B) Vertical Asym.: $x=-2, x=-1$
Holes: None

C) Vertical Asym.: $x=-1$
Holes: $x=-2$

D) Vertical Asym.: $x=0$
Holes: $x=-2$

Use the information provided to write the standard form equation of each circle.

6) Center: $(12, 8)$
Radius: 4

A) $(x-10)^2 + (y+12)^2 = 16$

B) $(x-8)^2 + (y+12)^2 = 16$

C) $(x-12)^2 + (y-8)^2 = 16$

D) $(x-12)^2 + (y-8)^2 = 256$

7) $x^2 + y^2 + 14x + 10y + 10 = 0$

A) $(x+7)^2 + (y+5)^2 = 64$

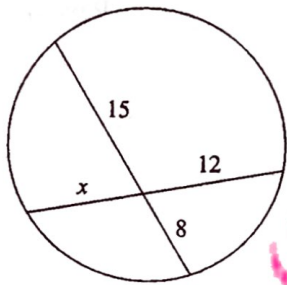
B) $(x+6)^2 + (y-5)^2 = 64$

C) $(x-7)^2 + (y+5)^2 = 4096$

D) $(x+7)^2 + (y+5)^2 = 4096$

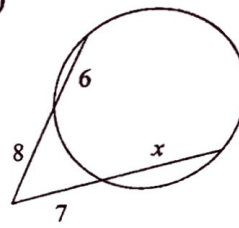
Solve for x . Assume that lines which appear tangent are tangent.

8)



- A) 11 B) 10
C) 6 D) 7

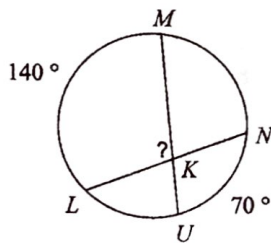
9)



- A) 12 B) 9
C) 8 D) 7

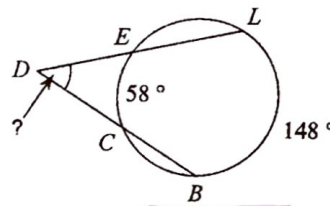
Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

10)



- A) 96° B) 95°
C) 105° D) 145°

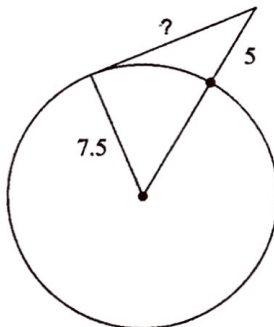
11)



- A) 34° B) 45°
C) 67° D) 65°

Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

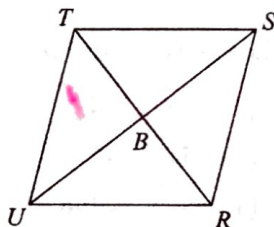
12)



- A) 11.5 B) 12.1
C) 10 D) 10.6

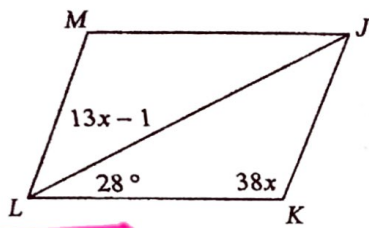
Find the measurement indicated in each parallelogram.

- 13) $TB = 7x + 3$
 $BR = 8x + 1$
Find TB



- A) 22 B) 21
C) 13 D) 17

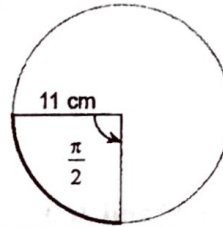
Find $m\angle M$



- A) 114°
- B) 65°
- C) 89°
- D) 55°

Find the length of each arc. Round your answers to the nearest tenth.

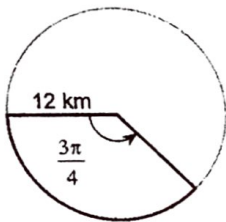
15)



- A) 17.3 cm
- B) 34211.9 cm
- C) 9.4 cm
- D) 380.1 cm

Find the area of each sector. Round your answers to the nearest tenth.

16)

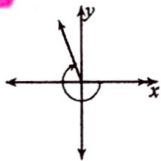


- A) 28.3 km^2
- B) 10178.8 km^2
- C) 169.6 km^2
- D) 28.8 km^2

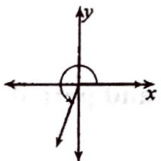
Draw an angle with the given measure in standard position.

17) -250°

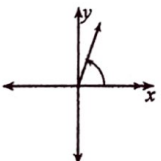
A)



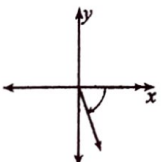
B)



C)

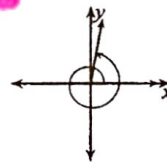


D)

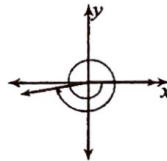


18) 440°

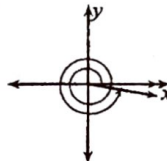
A)



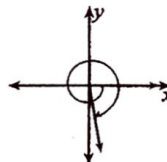
B)



C)



D)



Convert each degree measure into radians and each radian measure into degrees.

19) 225°

- A) $\frac{5\pi}{4}$ B) $\frac{53\pi}{36}$
C) $\frac{5\pi}{2}$ D) $\frac{4\pi}{3}$

20) $\frac{5\pi}{12}$

- A) 75° B) 80°
C) 65° D) 60°

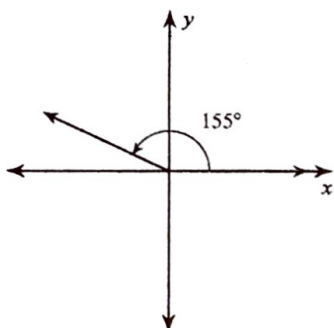
Find a coterminal angle between 0° and 360° .

21) -435°

- A) 315° B) 285°
C) 145° D) 15°

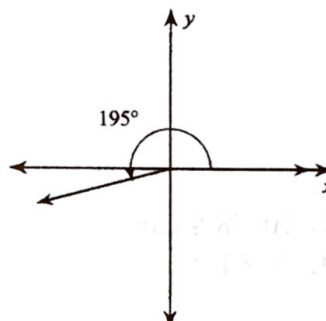
Find the reference angle.

22)



- A) 25° B) 75°
C) 85° D) 65°

23)



- A) 15° B) 60°
C) 75° D) 65°

Find the exact value of each trigonometric function.

24) $\cos 30^\circ$

- A) $\frac{\sqrt{3}}{2}$ B) $\frac{1}{2}$
C) 1 D) -1

25) $\sin 60^\circ$

- A) $\frac{1}{2}$ B) $-\frac{2\sqrt{3}}{3}$
C) $-\frac{\sqrt{3}}{3}$ D) $\frac{\sqrt{3}}{2}$

26) $\tan 315^\circ$

- A) $\frac{\sqrt{3}}{3}$ B) 0
C) -1 D) Undefined

Using degrees, find the amplitude and period of each function.

27) $y = 7\sin(4(\theta - 40)) + 1$

- A) Amplitude: 8
Period: 360°
B) Amplitude: 10
Period: $\frac{360^\circ}{7}$
C) Amplitude: 7
Period: 90°
D) Amplitude: 6
Period: 2160°