NAME _____ DATE _____ PERIOD _____

Chapter 4 Test Review

Write the letter for the correct answer in the blank at the right of each question.

1. Rewrite $-435°$ in radians as a multiple of π.
   A $\frac{5\pi}{12}$ **B** $-\frac{5\pi}{12}$ **C** $\frac{29\pi}{12}$ **D** $-\frac{29\pi}{12}$ 1. _____

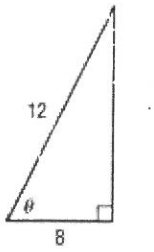
2. Rewrite 43° 18′35″ in decimal degree form to the nearest thousandth.
   F 43.306° **G** 43.308° **H** 43.309° **J** 43.310° 2. _____

3. **TIRES** Tires are rotating at a rate of 24 revolutions per minute. Find the angular speed of the tires in radians per minute.
   A 12π rad/min **B** 24π rad/min **C** 48π rad/min **D** 72π rad/min 3. _____

4. There are three rollers under a conveyor belt, and each roller has a radius of 8 centimeters. The rollers turn at a rate of 2 revolutions per second. What is the linear speed of the conveyor belt?
   F 0.50 m/s **G** 50.26 m/s **H** 100.53 m/s **J** 1.005 m/s 4. _____

5. Let $\tan\theta = \frac{5}{12}$, where $\sin\theta > 0$. Find the exact value of $\sin\theta$.
   A $\frac{5}{13}$ **B** $\frac{5}{12}$ **C** $\frac{12}{13}$ **D** $\frac{13}{12}$ 5. _____

6. Find the exact value of tangent θ.
   F $\frac{2\sqrt{5}}{2}$ **H** $\frac{\sqrt{5}}{2}$
   G $\frac{2}{3}$ **J** $\frac{\sqrt{5}}{3}$



6. _____

7. **PATIO** A sector of a circular patio intercepts an arc that is 21 meters and has a central angle of 301°. Find the diameter of the patio.
   A 4.0 m **C** 21.0 m
   B 8.0 m **D** 42.0 m 7. _____

8. Identify all coterminal angles between $-360°$ and 360° for the angle $-420°$.
   F $-60°$ and 300° **H** $-60°$ and 330°
   G 30° and 300° **J** 60° and $-300°$ 8. _____

9. **LOGO** A circular pizza box logo has a sector with a central angle of 40° and a diameter of 25 inches. Find the area of the sector.
   A 4.4 in^2 **B** 54. in^2 **C** 218.2 in^2 **D** 490.9 in^2 9. _____

10. Let $(5, -2)$ be a point on the terminal side of an angle θ in standard position. Find the exact value of csc θ.
    F $-\frac{\sqrt{29}}{2}$ **G** $-\frac{2\sqrt{29}}{29}$ **H** $\frac{\sqrt{29}}{5}$ **J** $\frac{5\sqrt{29}}{29}$ 10. _____

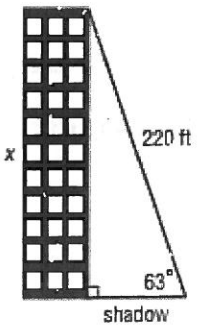
11. Rewrite $\frac{17\pi}{18}$ in degree form.

A 85° B 155° C 170° D 340° 11. _____

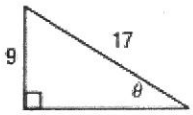
12. **ARCHITECTURE** The angle of elevation from the tip of a building's shadow to the top of the building is 63° and the distance is 220 feet. Find the height of the building to the nearest foot.

F 100 ft H 178 ft

G 112 ft J 196 ft 12. _____



13. Find θ.



13. _____

14. Find the exact value of $\sin \frac{11\pi}{6}$.

F $\frac{1}{2}$ G $-\frac{1}{2}$ H $\frac{\sqrt{3}}{2}$ J $-\frac{\sqrt{3}}{2}$ 14. _____

15. In $\triangle DEF$, $E = 52°$, $d = 14$, and $f = 9$. Find e. 15. _____

F 8.2 H 11.1

G 11.0 J 18.4

16. **RAMP** The side view of a skateboard ramp is a triangle ABC with $A = 27°$, $B = 78°$, and $c = 19$ feet. Find a.

F 8.8 ft G 8.9 ft H 40.4 ft J 40.9 ft 16. _____

17. Let $(-2, -4)$ be a point on the terminal side of an angle θ in standard position. Find the exact value of $\sec \theta$.

F $\frac{\sqrt{5}}{2}$ G $\frac{\sqrt{3}}{2}$ H $-\frac{\sqrt{5}}{2}$ J $-\sqrt{5}$ 17. _____

18. In $\triangle DEF$, $E = 52°$, $d = 14$, and $f = 9$. Find e.

F 8.2 H 11.1

G 11.0 J 18.4 18. _____

19. **GEOMETRY** Mrs. Lindsay designated a triangular area in the auditorium for art projects. The dimensions of the triangle are 32 feet, 26 feet, and 40 feet. What is the area of the triangle?

A 49.0 ft^2 B 121.0 ft^2 C 296.6 ft^2 D 415.2 ft^2 19. _____

20. In $\triangle RST$, $r = 7.8$ in., $s = 4.2$ in., and $t = 3.9$ in. Find R.

F 15.1° G 16.2° H 78.9° J 148.7° 20. _____