**Unit 7 Math 20 – 1 Ch.3 Trigonometry Final Exam Review**

 **1.** Point P(-2, -7) is on the terminal arm of an angle ** in standard position. Determine the measure of ** to the nearest degree.

 **2.** A guy wire is attached to a tower at a point that is 12 m above the ground. The angle between the wire and the level ground is 63. To the nearest tenth of a metre, how far from the base of the tower is the wire anchored to the ground?

 **3.** An angle *θ* has its terminal arm in Quadrant 4. Which primary trigonometric ratio is greater than 0?

 **4.** In which quadrant does the terminal arm of 177o angle in standard position lie?

 **5.** Determine the reference angle for the angle 234° in standard position.

 **6.** Determine the exact values of *θ* where  for $cosθ=\frac{-\sqrt{2}}{\begin{array}{c}2\\\end{array}}$

 **7.** Determine the exact value of cos 330.

 **8.** Determine the exact value of tan 210.

 **9.** Angle ** is in standard position and its terminal arm lies in Quadrant 2. The sine of its reference angle is $\frac{3}{8}$. Determine the exact value of $cosθ$

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 **10.** Determine the possible coordinates (*x*, *y*) of a terminal point for the angle 120° in standard position. The value of *r* is 7, where .

**11.** For PQR, write the Sine Law equation you would use to determine the measure of side “q”.

 **12.** What are the three other angles in standard position that have a reference angle of 67?

 **13.** The point (15, –3) is on the terminal arm of A. Which is the set of exact primary trigonometric ratios for the angle?

 **14.** An angle is in standard position such that $cosθ=\frac{2}{5}$. What are the possible values of , to the nearest degree, if ?

 **15.** An angle between 0° and 360° that has the same sine value as sin 195° is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 **16.** $P\left(\frac{-\sqrt{3}}{2}, \frac{1}{2}\right)$and **Q** $\left(\frac{\sqrt{2}}{2},\frac{-\sqrt{2}}{2}\right)$are two points on theunit circle. If an object rotates counterclockwise from point P to point Q, the angle it rotates through is \_\_\_\_\_\_\_.

 **17.** To the nearest degree, which values of *θ* satisfy this equation for ?

 $sinθ=\frac{-4}{7}$

 **19.** For JKL determine the length of KL to the nearest tenth of a centimetre.



**20.** For ABC determine the length of AC to the nearest tenth of a centimetre.



**21.** In ABC, B = 47°, AB = 4.1 cm, and BC = 5.8 cm. Determine the measure of C to the nearest degree.

 **22.**  The following diagram represents a roof on a house. Determine the angle of the roof at <A. (2 marks)



**Math 20 – 1 Ch.3 Trigonometry Final Exam Review Key**

1. 254o
2. 6.1 m
3. Cosine
4. Quadrant II
5. 54o
6. 135o and 225o
7. $\frac{\sqrt{3}}{2}$
8. $\frac{\sqrt{3}}{3}$
9. $\frac{\sqrt{55}}{8}$
10. $\left(\frac{-7}{2},\frac{7\sqrt{3}}{2}\right)$
11. $\frac{8.7}{sin37}=\frac{q}{sin101}$
12. 113o, 247o, 293o
13. $sinθ=\frac{-3\sqrt{234}}{234} tanθ=\frac{-3}{15} cosθ=\frac{15\sqrt{234}}{234} $
14. 66o, 294o
15. 345o
16. 165o
17. 215o, 325o
18. 6.99 cm
19. 8.6 cm
20. 45o
21. 100o