

1. a) CONVERT 138° TO RADIANS

b) CONVERT $\frac{7\pi}{12}$ RAD TO DEGREES

2. EVALUATE TO 4 SIGNIFICANT DIGITS

a) $17.63 \cot \frac{5\pi}{8}$

b) $26.38 \cos^2 \frac{13\pi}{12}$

3. USE CAST RULE AND FIND θ , $0 \leq \theta < 2\pi$, GIVEN

a) $\tan \theta = 1.3627$

b) $\csc \theta = -2.1624$

4. GIVEN $A = \frac{1}{2} r^2 \theta$ FIND r IN CM GIVEN $A = 46.8 \text{ cm}^2$
AND $\theta = 37.4^\circ$

5. GIVEN $V = \omega r$ FIND LINEAR VELOCITY V IN CM/S
GIVEN $\omega = 280 \text{ REV/MIN}$
AND $r = 18.6 \text{ cm}$

5 6a) SKETCH ONE CYCLE OF $y = 9 \cos\left(3x + \frac{\pi}{2}\right)$

5 b) SKETCH ONE CYCLE OF $y = -8 \csc 4x$

3 c) SKETCH 2 CYCLES OF $y = \tan 3x$

7a) EXPRESS $P^T = W$ IN LOGARITHMIC FORM

2 b) EXPRESS $\log_R D = F$ IN EXPONENTIAL FORM

8. SOLVE FOR x TO 3 DIGITS

16 a) $\ln x = 3.72$ b) $x = \log 76.9^{3.4}$ c) $x = \log_{1.76} 3.89$

d) $x = 15.6 e^{-2.13}$

e) $24.8 = 4.76^x$

f) $10^x = 1.29$

g) $\log_x 29.8 = 4.17$

h) $32.5 = e^{1.39x}$

i) $\ln(5x-2) = 4.32$

6 9. GIVEN $P = 47.9(1 - 0.53 e^{-0.082t})$

a) FIND P WHEN $t = 16.3$

b) FIND t WHEN $P = 23.5$

10 FIND THE MAGNITUDE AND DIRECTION OF THE RESULTANT

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