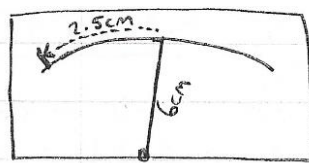


Revision Sheet - Trig

Review: Fri 5/10/18

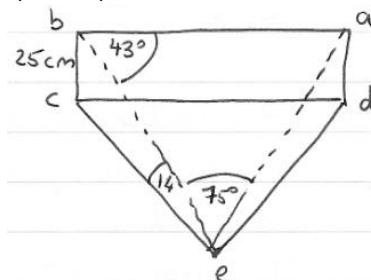
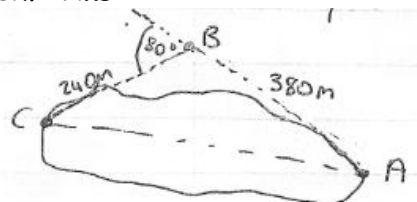
Q1. A safety regulation states that the maximum angle of elevation for a rescue ladder is 72° . A fire department's longest ladder is 110 feet. What is the maximum safe rescue height?

Q2. A voltmeter's pointer is 6cm in length. Find, in radians, the angle through which it rotates when it moves 2.5cm on the scale.



Q3. To approximate the length of a marsh, a surveyor walks 380m from point A to point B. Then the surveyor turns 80° and walks 240m to point C. Approximate the length AC of the marsh. **Ans:**

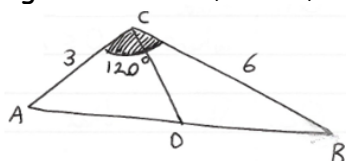
Q4. ced is a triangle on horizontal ground. abcd is a vertical rectangular wall. $|bc| = 25\text{cm}$, $|\angle abe| = 43^\circ$, $|\angle aeb| = 75^\circ$ and $|\angle bec| = 14^\circ$.



Find $|\angle aed|$ correct to the nearest degree.

Q5. ABC is a triangle with $|\angle BCA| = 120^\circ$. $|AC| = 3$ and $|BC| = 6$. D is a point on $[AB]$ such that the area of the triangle ADC is equal to the area of triangle BCD. Find $|\angle DCA|$.

Q6. Find the values of X for which $\cos X = -\frac{1}{\sqrt{2}}$ where $0 \leq X \leq 360^\circ$.



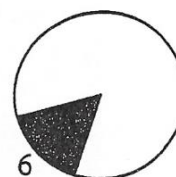
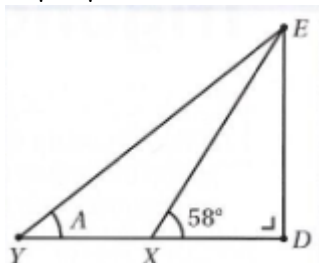
Q7. Solve the equation $\sin 2x = -\frac{\sqrt{3}}{2}$, where x is in degrees and $x \in R$.

Q8. Solve the equation $\sin 4\theta = 0.9848$ giving all the solutions, to the nearest degree, for $0^\circ \leq \theta \leq 360^\circ$.

Q9. Write $\tan^2 30 + \sin^2 60$ in surd form.

Q10. In the diagram below $|YX| = |XD|$, $|\angle EXD| = 58^\circ$. YD is perpendicular to DE. If $A = |\angle EYD|$, (i) show that $\tan A = \frac{1}{2} \tan 58^\circ$, (ii) calculate the angle A correct to the nearest degree, (iii) if $|XE| = 50\text{cm}$, calculate $|YE|$.

Q11. In the shaded sector in the diagram, the arc is 6cm long, and the angle of the sector is 0.75 radians. Find the area of the sector.



Answers:

Q1. 104.6ft	Q2. $\frac{5\pi}{12}$	Q3. 483.3m	Q4. 18°	Q5. 90°	Q6. $135^\circ, 225^\circ$
Q7. $x = 120 + 180n\pi, 150 + 180n$			Q8. $20^\circ, 25^\circ, 110^\circ, 115^\circ, 200^\circ, 205^\circ, 290^\circ, 295^\circ$		
Q9. $\frac{13}{12}$	Q10. (ii) 39° (iii) 64.7cm		Q11. 24cm^2		