Revision Sheet – Trig   **Review: Fri 5/10/18**
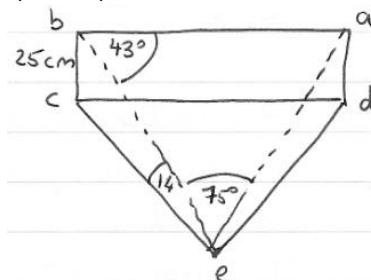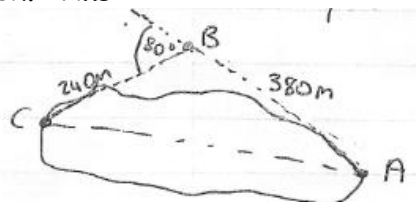
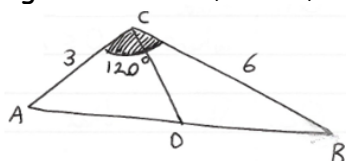|	
Q1. A safety regulation states that the maximum angle of elevation for a rescue ladder is 72°. A fire department's longest ladder is 110 feet. What is the maximum safe rescue height?	**Q2.** A voltmeter's pointer is 6cm in length. Find, in radians, the angle through which it rotates when it moves 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| = 25cm, |< abe| = 43°, |< aeb| = 75° and |< bec| = 14°. Find |< aed| correct to the nearest degree.
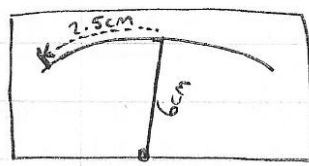
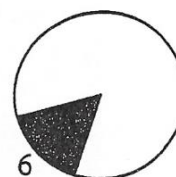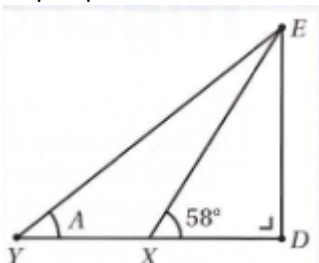|	
Q5. ABC is a triangle with |< BCA| = 120°. |AC| = 3 and |BC| = 6. D is a point on [AB] such that the area of the triangle ADC is equal to the area of triangle BCD. Find |< DCA|.	**Q6.** Find the values of X for which $\cos X = -\frac{1}{\sqrt{2}}$ where $0 \leq X \leq 360°$.
	Q7. Solve the equation $\sin 2x = -\frac{\sqrt{3}}{2}$, 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 $0° \leq \theta \leq 360°$.
	Q9. Write $\tan^2 30 + \sin^2 60$ in surd form.

Q10. In the diagram below |YX| = |XD|, |<EXD| = 58°. YD is perpendicular to DE. If A = |<EYD|, (i) show that $\tan A = \frac{1}{2}\tan 58°$, (ii) calculate the angle A correct to the nearest degree, (iii) if |XE| = 50cm, 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°,315°

Q7. $x = 120 + 180n\pi, 150 + 180n$	**Q8.** 20°, 25°, 110°, 115°, 200°, 205°, 290°, 295°
Q9. $\frac{13}{12}$ **Q10.** (ii) 39° (iii) 64.7cm	**Q11.** 24cm²