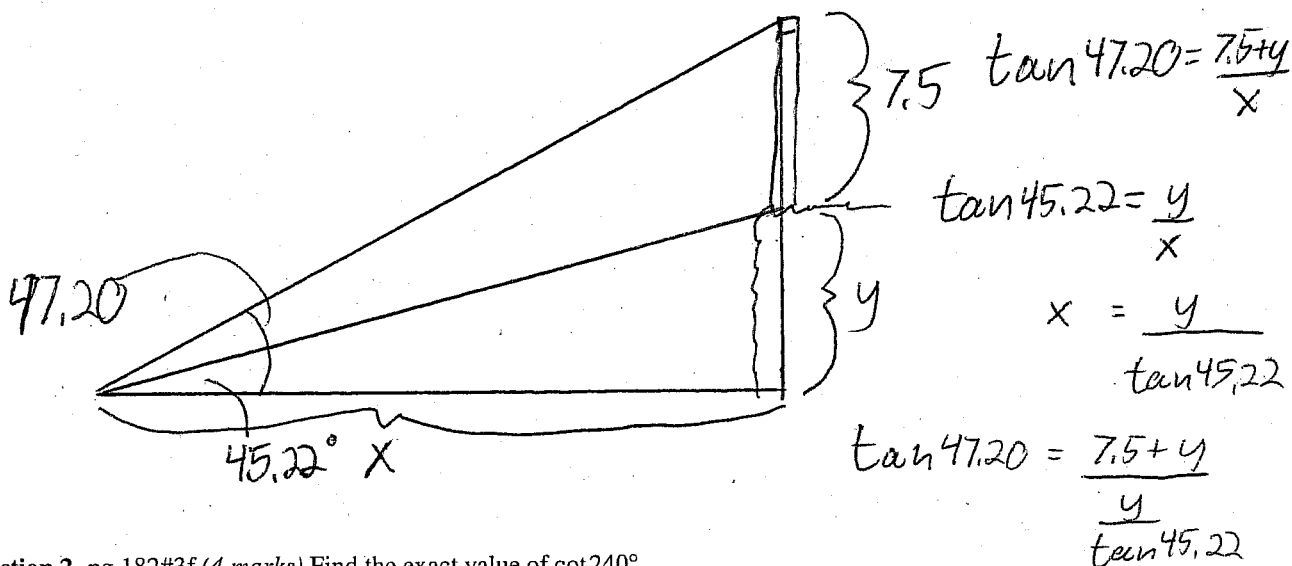


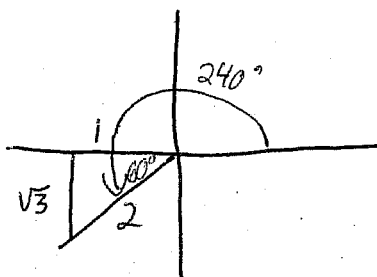
Quiz 9

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. pg.161#34 (4 marks) A 7.5m tall lighthouse stands on the top of a seashore cliff. From a point offshore the angles of elevation to the top and bottom of the lighthouse are 47.20° and 45.22° respectively. Find the height of the cliff.



Question 2. pg.182#3f (4 marks) Find the exact value of $\cot 240^\circ$.



$$\cot 240^\circ = \frac{\text{adj}}{\text{opp}} = +\frac{1}{\sqrt{3}}$$

$$y \left(\frac{\tan 47.20}{\tan 45.22} - 1 \right) = 7.5$$

$$y \cdot 0.07164 = 7.5$$

$$y = 104.69 \text{ m}$$

Question 3. pg.186#4n,3e (1 mark each)

a. Convert to radians: 315° .

$$315 \left(\frac{\pi}{180} \right) = \frac{7\pi}{4}$$

b. Convert to degrees: $\frac{5\pi}{4}$.

$$\frac{5\pi}{4} \left(\frac{180}{\pi} \right) = 225^\circ$$