Solutions - Lecture 8 - Homework

Question 1.

Q3.

$$\sin\theta = \frac{4}{5} \qquad \cos\theta = \frac{3}{5} \qquad \tan\theta = \frac{4}{3}.$$

$$\csc\theta = \frac{5}{4} \qquad \sec\theta = \frac{5}{3} \qquad \cot\theta = \frac{3}{4}.$$

Q6.

$$\sin\theta = \frac{15}{17} \qquad \cos\theta = \frac{8}{17} \qquad \tan\theta = \frac{15}{8}.$$

$$\csc\theta = \frac{17}{15} \qquad \sec\theta = \frac{17}{8} \qquad \cot\theta = \frac{8}{15}.$$

Q8.

$$\sin\theta = \frac{7}{8} \qquad \cos\theta = \frac{\sqrt{15}}{8} \qquad \tan\theta = \frac{7}{\sqrt{15}}.$$

$$\csc\theta = \frac{8}{7} \qquad \sec\theta = \frac{8}{\sqrt{15}} \qquad \cot\theta = \frac{\sqrt{15}}{7}.$$

Question 2.

Q9a).

$$\sin\alpha = \frac{3}{\sqrt{34}} \qquad \cos\beta = \frac{3}{\sqrt{34}}.$$

Q10a).

$$\sin\alpha = \frac{4}{7} \qquad \cos\beta = \frac{4}{7}.$$

Question 3.

Q11. $x = 25/2$.

Q12. $x = 12\sqrt{2}$.

Q13. $x = (13\sqrt{3})/2$.

Q14. $x = 4\sqrt{3}$.

Q16. $x = 31.30339$.

Question 4.

(a) 11/12.

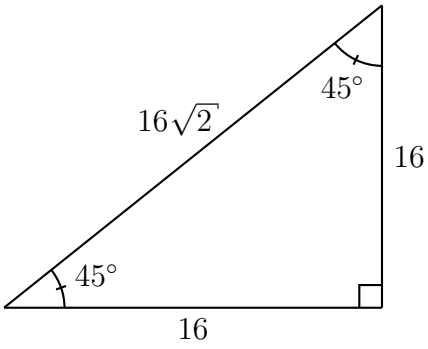
(b) 1.

(c) 3/2.

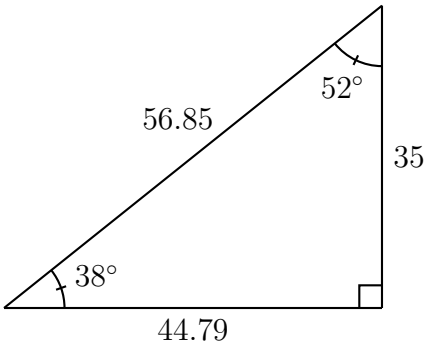
(d) 22/3.

Question 5.

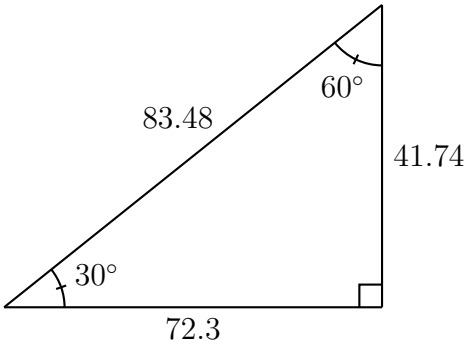
Q31.



Q33.



Q36.



Question 6.

Q41. $x = 230.9$.

Q42. $x = 95.1$.

Q44. $x = 5.77$.

Question 7.

(a) $A_{\triangle ABC} = 3\left(6 + 6\sqrt{3}\right)$ square units.

(b) (This will be an assignment problem so I wont give the solution here)