# **Formal Exercise 7 Trigonometry**

**Questions 1 – 8 should be completed without the use of a calculator**

**Your teacher may select some or all of this to do.**

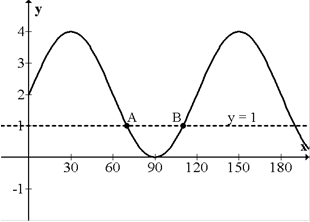
1. What is the exact value of sin – cos ? (3)

2. Solve the following equations

a) √2cosxº + 1 = 0 0 < x < 360 (2)

b) 2sin(x + ) - √3 = 0 0 ≤ x ≤ 2π (3)

c) 2cos2x – cosx – 1 = 0 0 ≤ x ≤ 2π (4)



3. (a) The diagram opposite shows the graph of

y = psin qx + r.

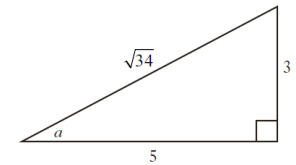
Write down the equation of this graph.

(b) The line y = 1 is drawn on the same graph.

Find the coordinates of A and B.

(2,3)

4. Sketch the graph of y = 3cos4x – 1 0 ≤ x ≤ π (3)

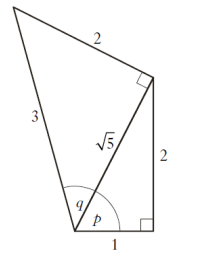


5. A right angled triangle has sides and angles as shown in the diagram.

What is the exact value of sin 2a?

(2)

6. If the exact value of cos x is , find the exact value of cos 2x. (3)



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7. The diagram opposite shows two right (3)

angled triangles with sides and angles given.

What is the exact value of sin(p + q)?

8. Solve 2cos2x – 5cosx – 4 = 0 0 ≤ x ≤ 2π (5)

9. Solve 4sin2 = 5sin 0 ≤ x ≤ 2π (5)

10. a) Using the fact that = + , find the exact value of sin ( (3)

b) Show that sin(A + B) + sin(A – B) = 2sinAcosB (2)

c) i) Express in terms of and

ii) Hence or otherwise, find the exact value of sin + sin( (4)

**47 MARKS**