

HKCEE 09 Mock Test

Mathematics Paper 1 Section A (1)

FULL MARKS: 33 marks

Time limit: 35 mins

Answer ALL questions

1. Simplify  $\frac{(a+bc)(-bc+a)}{b-ac} \times \frac{(ca-b)(ca-b)}{(2b-2ca)}$  (3 marks)

2. Solve  $6(x+2) \geq 7(x^2 - 4)$  (3 marks)

3(a). Suppose  $x^3 + 3x = 3x^2 + 1$ , find  $x$ . (1 marks)

3(b). Using (a) or otherwise,

$(y+17)^3 - 3(y+16)(y+17) - 1 = 0$ , find  $y$ . (5 marks)

4. In Fig.1, PQRS is a square. O is the center of the square PQRS. And the length of the square is 5cm. Find OP. (4 marks)

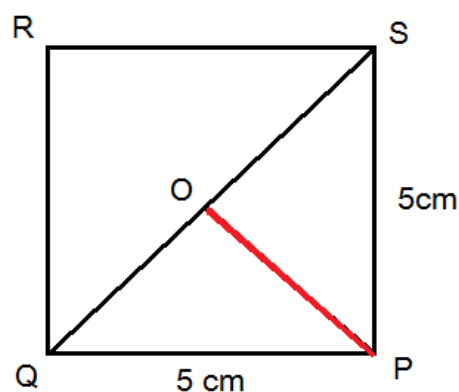


Fig. 1

5. Given that  $a+b+c = 7$ ,  $ab+ac+bc = 0$ ,  $abc = -36$ , find  $a$ ,  $b$ ,  $c$ . (5 marks)

6. In Fig. 2,  $ABC$  is a triangle inside the circle.  $O$  is centre of the circle.  
Find  $x$ . (4 marks)

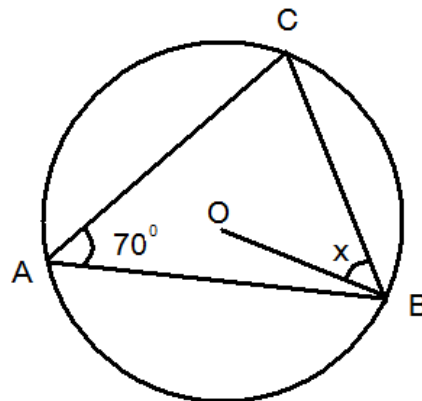


Fig. 2

7(a). Suppose you are a player of the lucky draw and are given three bags, bag A contain 3 blue balls and 5 white balls, bag B contain 2 blue balls and 3 white balls and bag C contain 5 blue balls and 7 white balls respectively. In the game, you have to pick up 1 ball from each of bags. If you pick up 2 blue balls and 1 white ball, you win the game. Find the probability that you win the game. (6 marks)

7(b). If you win the game, you can receive \$1200 as prize; otherwise, you are fined \$100. What is the expected value you can get? (2 marks)

THE END OF PAPER