**S4 CORE MATHEMATICS COMPREHENSIVE 2020 MARKING SCHEME**

answer 1 a) 4marks







Answer 1b) **6marks**









answer 2

a) P(7): 7+ 1 > 5 , P(7): 8 > 5 (True) 2marks

b) P(2): 2 + 1 > 5 , P(2): 3 > 5 (False) 2marks

c)  3marks

 true 3marks

Answer 3 10marks

5x + 3y = 12 ... .... (1)

7x + 2y = 19 ... .... (2)

We multiply (1) by 2 and (2) by –3:

10x + 6y = 24

–21x –6y = –57

Adding the two equations term by term gives:

–11x = –33

x = 3

Substituting x = 3 into (1) gives:

5(3) + 3y = 12

15 + 3y = 12

3y = –3

y = –1

Hence x = 3, y = –1 is the solution to the system of equations.

Answer 4: 6marks



Curve representing  has the horizontal asymptote

**ANSWER 5 5marks**

AB = (2, 3) and BC = (2, 3)

 = (4, 6) =2(2, 3) = 2 = 2

**Answer 5b) 5marks**





Thus, the image of (6, –3) reflected in the x-axis is (6, 3).

Solution6a 6marks

The number of committees is





Solution6b 4marks

Since two of the seven letters are ‘’A’’, the probability of choosing a letter ‘’A’’

Is 

Answer 7 10marks

The sample space is S = {HH, HT, TH, TT},

A = {HH}, B = {HT, TH},

a)

b) 

Answer 8 **6marks**







answer 9a 4marks







b) 6marks











**Answer 10 6marks**

 where



Therefore



So we have 2 roots







Therefore



ANSWER 11

a) 3marks



b)  **3marks**







c)3=28x2 **3marks**

=3+56

=59

d)21+28(2) **3marks**

=21+56

=77