1) A triangle ABC has sides 

Calculate the length of the perpendicular from C to [AB].

Answer to 1 decimal place.

2) The transformation (*x* , y) (2 – y, *x* – 2) is applied three successive times . Starting with (1 , 1) find the coordinates of the resultant point.

3) P is a point on the xy-plane whose coordinates are both integers.

For how many values of P is it exactly 10 units from the origin?

4) Tan(A) + Tan(B) = 25 and Cot(A) + Cot(B) = 30.

Calculate the value of Tan(A + B).

5) How many solutions does the equation  have?

6) A computer password consists of a letter followed by 3 or 4 digits.

Find the total number of passwords in which no digit is repeated.

7) What is the greatest common factor (divisor) of 19! and 19! + 17 ?

8) The average of six distinct real numbers is 275. The average of the four smallest numbers is 200. The average of the four greatest numbers is 340.

What is the average of the two middle numbers?

9) Given that  and , find the value of s.

Answer in form , where a and b .

10) The line segment [AB] is divided internally in the ratio 7 : 5 by the point P with coordinates ( 3, 2.75).

A has coordinates ( - 4 , 1) .

Find the coordinates of B in simplest form (*x*,y).

11) Find in simplest form the range of values of *x* for which |3 – 4*x*| < 7, *x* .

12) Solve for *x* : 

Answer correct to 2 decimal places..

13) The expression may be written in the form 2 + .

Find the value of A 