Name:	Class:	Marked by:

YEAR 1 | PURE MATHEMATICS | PEER MARKED TASK 1

Question	1	2	3	4	5	6	7	8	9	Total
Marks										
Max Marks	3	4	3	7	3	4	15	6	11	56
Target										

1. Find the equation of the line through $(0,-2)$ and $(4,18)$.

(3)

2. Solve the simultaneous equations

$$5x + 2y = 4$$
$$4x - 3y = 17$$

You **must** show your working.
Do **not** use trial and improvement.

(4)

3. A loft ladder makes an angle of $74°$ with the floor.
The distance between the floor and the ceiling is $2.6\,\text{m}$.

Calculate the length, L, of the loft ladder.

(3)

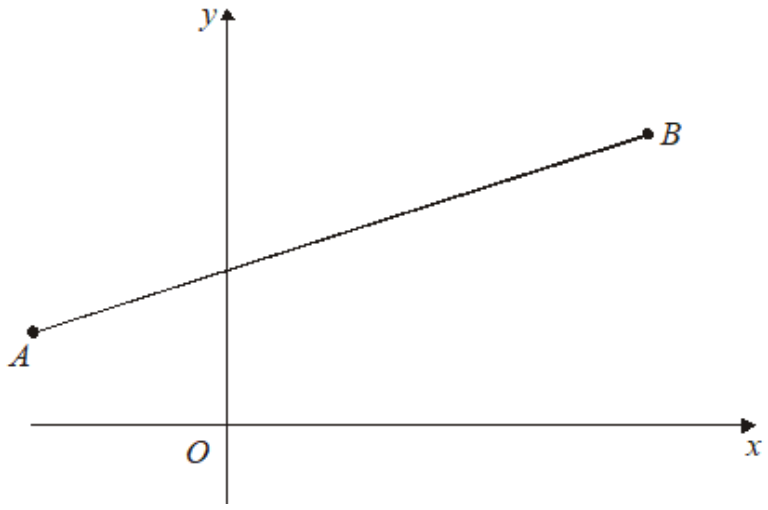
4. (a) Make p the subject of the formula $4(p+r) = 7r + 11$.

(3)

(b) Make x the subject of the formula $y = \dfrac{m+x}{x-2}$.

(4)

5. The diagram shows the points $A(-2,2)$ and $B(8,7)$.



Find the equation of the line perpendicular to AB and passing through $(0,7)$.

Give your answer in the form $ax + by + c = 0$, where a, b and c are integers.

(3)

6. Solve the equation $\frac{2}{y+1}+\frac{3}{2y-3}=1$

(4)

7. The line l_1 passes through the points $P(-1,2)$ and $Q(11,8)$.

(a) Find an equation for l_1 in the form $y=mx+c$, where m and c are constants.

(4)

The line l_2 passes through the point $R(10,0)$ and is perpendicular to l_1. The lines l_1 and l_2 intersect at the point S.

(b) Calculate the coordinates of S.

(5)

(c) Show that the length of RS is $3\sqrt{5}$.

(2)

(d) Hence, or otherwise, find the exact area of triangle PQR.

(4)

8. The line l has gradient -2 and passes through the point $A(3,5)$. B is a point on the line l such that the distance AB is $6\sqrt{5}$. Find the coordinates of each of the possible coordinates of B.

(6)

9. The points A, B and C have coordinates $(5,1)$, $(p,7)$ and $(8,2)$ respectively.

(a) Given that the distance between points A and B is twice the distance between points A and C, calculate the possible values of p.

(7)

(b) Given also that the line passing through A and B has equation $y=3x-14$, find the coordinates of the mid-point of AB.

(4)