SPTA
Higher Homework
Straight Line (A)

1. The points A(-6, 3), B(2, -5) and C(-2, *k*) are collinear. What is the value of *k* ? **(2)**

2. A line has equation $\frac{x}{3}+\frac{y}{7}=2$. What are its gradient and *y*-intercept? **(2)**

3. Q is the point $(3,-5)$ and R is the point $(-7,3)$
Calculate the gradient of the perpendicular bisector of QR. **(3)**

4. For the points A(4 , 12) & B(-4 , -4), calculate the:

(a) gradient (b) midpoint (c) distance AB

(d) angle the line makes with the positive direction of the x-axis? **(5)**

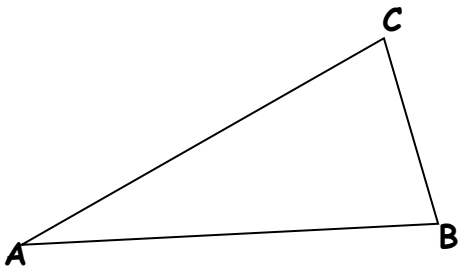
5. (a) Find the equation of the line through (0, 4) which is parallel to the line 3x – y = 7 **(2)**

(b) Find the equation of a line through (2, -3) and perpendicular to the line x + 2y = 6 **(2)**

(c) Find where these two lines intersect. **(3)**

6. Show that the points P (-6, -1) , Q (0, 2)and R (8, 6) are collinear. **(2)**

7. Triangle ABC has vertices A(-16,-7), B(12,-3) and C(7,7).



Find the:

(a) equation of the median CM. **(3)**
(b) equation of the altitude AD. **(3)**
(c) coordinates of the point of intersection of CM and AD. **(3)**