

(C1-5.5) Name:

Homework Questions 5 – Parallel and Perpendicular Lines

1. If the gradient of a line is 2, what is the gradient of the parallel line to it?

Ans

2. If the gradient of a line is $\frac{3}{5}$, what is the gradient of a line perpendicular to it?

Ans

3. Line A has the equation $y = 5x + 2$ and line B has the equation $y = 5x - 3$. Are the lines parallel or perpendicular? You must prove it.

Ans

4. What is the gradient of a line perpendicular to the line $4x + 7y = 3$?

Ans

5. Find the equation of the line which passes through the point (0,-3) and which is parallel to the line $y = 7x + 2$. Write your answer in the form of $ax+by+c=0$.

Ans

6. A line has an equation of $y = 8x + 3$. What is the equation of the line perpendicular to this one which has a y-intercept of -2. Write your answer in the form of $ax+by+c=0$.

Ans

7. $A(-1,1)$ $B(8,3)$ $C(9,7)$ $D(0,5)$ Show that ABCD is a parallelogram

8. Find the equation of the line through $(5,-1)$ which is perpendicular to the line $x+3y=4$

Ans

9. Two lines are perpendicular and intersect on the x-axis. One of the lines is $y=2x-6$. Find the equation of the other line.

Ans

10. a) show that the triangle XYZ with $X(4,15)$ $Y(-1,4)$ and $Z(7,7)$ is a right angled triangle
b) find the equation of the hypotenuse

Ans