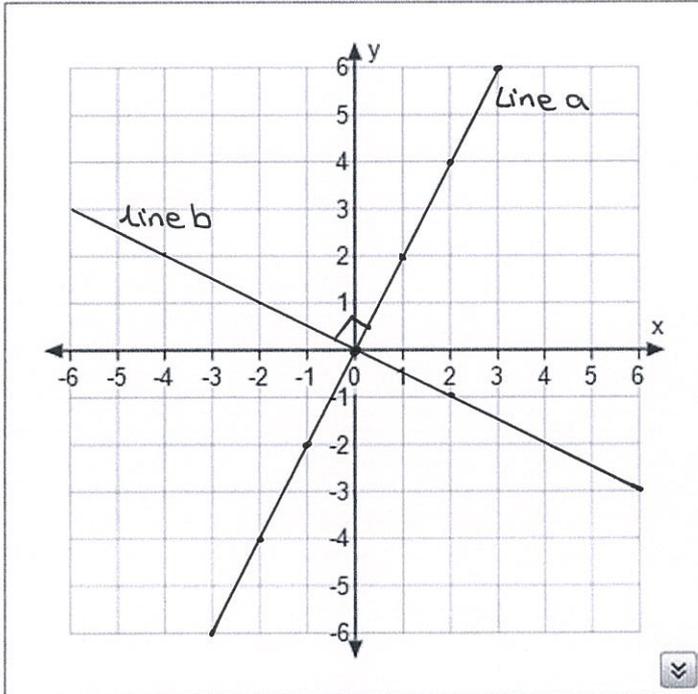


Gradients of Perpendicular Lines

Section A

For each of the following pairs of perpendicular lines, find the gradient of each line:

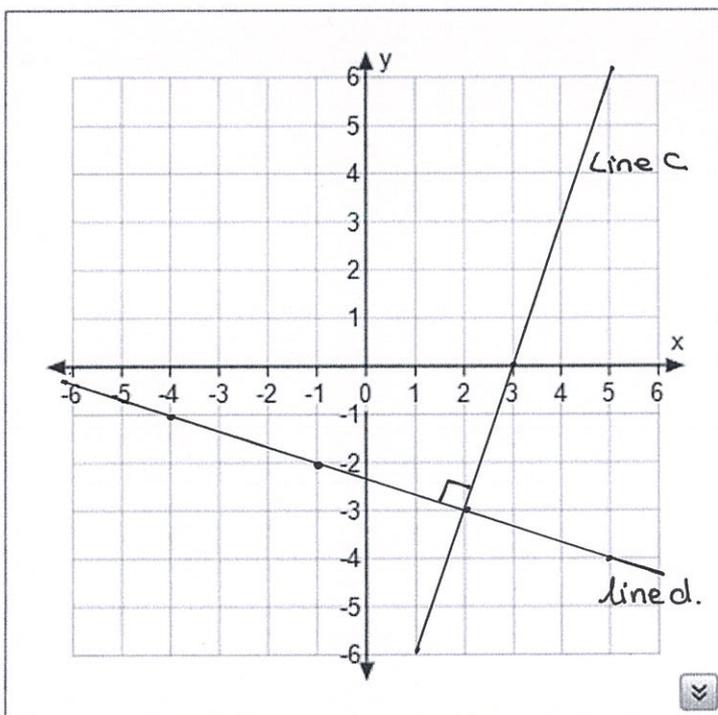
1.



Gradient of line a =

Gradient of line b =

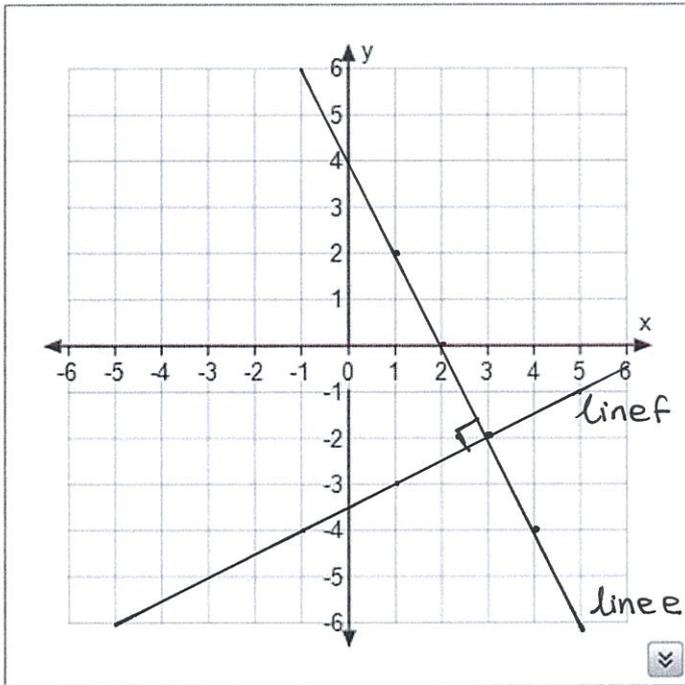
2.



Gradient of line c =

Gradient of line d =

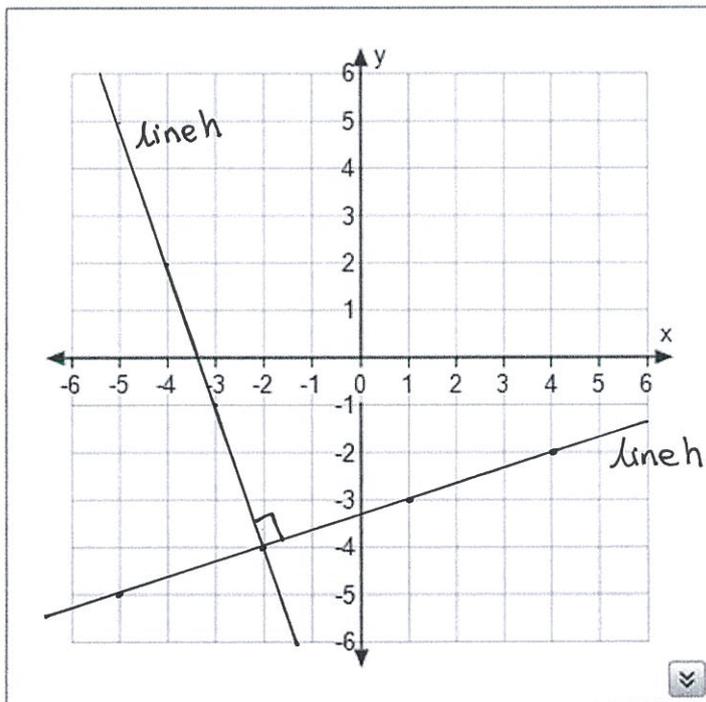
3.



Gradient of line e =

Gradient of line f =

4.



Gradient of line g =

Gradient of line h =

5**. What do you notice about the gradients of perpendicular lines?

Section B

- 1*. A line has a gradient of 4, what would be the gradient of a line which is perpendicular to this line?
- 2*. A line has a gradient of -3, what would be the gradient of a line which is perpendicular to this line?
- 3**. A line has a gradient of $\frac{1}{5}$, what would be the gradient of a line which is perpendicular to this line?
- 4**. A line has a gradient of $-\frac{1}{6}$, what would be the gradient of a line which is perpendicular to this line?
- 5**. A line has a gradient of $\frac{2}{3}$, what would be the gradient of a line which is perpendicular to this line?
- 6***. Line A has equation $y = 3x + 4$, line B is perpendicular to line A what is the gradient of line B?
- 7***. Line C has equation $y = \frac{1}{6}x - 2$, line D is perpendicular to line C what is the gradient of line D?
- 8****. Line E has equation $y + 3x - 2 = 0$, line F is perpendicular to line E what is the gradient of line F?
- 9****. Line G has equation $2y = x + 4$, line H is perpendicular to line G what is the gradient of line H?
- 10****. Line K has equation $y = 3x + 4$, line L is perpendicular to line K and passes through the point (6, 5). What is the equation of line L?
- 11****. Line M has equation $y = -4x - 2$, Line N is perpendicular to line M and passes through the point (12, 1). What is the equation of Line N?