Equation of a straight line Graph

Literacy

A jar of Tipp-ex has spilt all over this important paragraph. Can you fill in the missing gaps?

The equation of a straight line graph is _____. The gradient is denoted by _____ and the _____ is denoted by c. The _____ is the steepness of a line, whereas the intercept is where the graph cuts across the _____.

Memory

Equation of a straight line

$$y = mx + c$$

M is the gradient

(Remember you need two pairs of coordinates)

$$Gradient = \frac{Change\ in\ y}{Change\ in\ x} = \frac{y_2 - y_1}{x_2 - y_1}$$

C is the y-intercept

This is the value at which the line crosses the Y-axis

Skill 1

Find the gradient of the line connecting the two points.

1) Coordinate A (1,2)
   Coordinate B (5,10)

2) Coordinate A (4,3)
   Coordinate B (6,9)

3) Coordinate A (4,7)
   Coordinate B (16,13)

4) Coordinate A (-2,4)
   Coordinate B (4,8)

5) Coordinate A (-2,7)
   Coordinate B (0,15)

6) Coordinate A (-4,-4)
   Coordinate B (-1,11)

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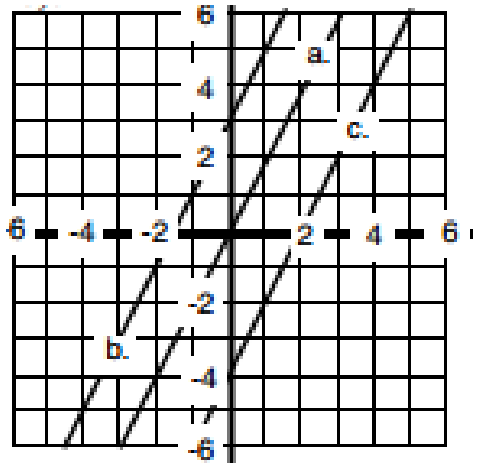
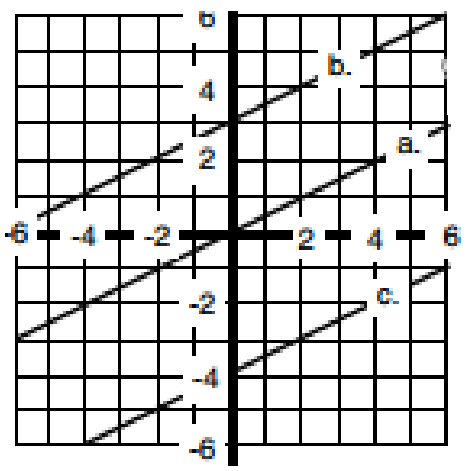
Skill 2

Find the equation of these straight line graphs.



Equation A	
Equation B	
Equation C	



Equation A	
Equation B	
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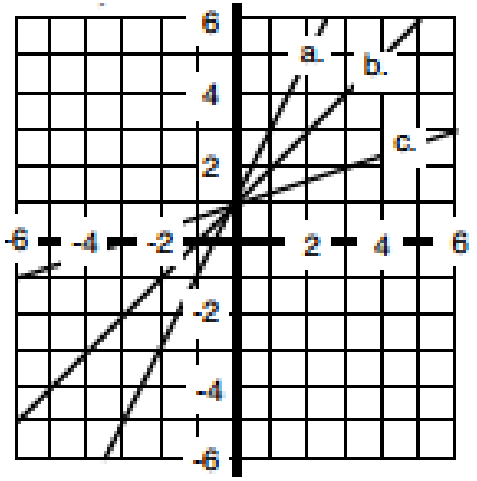
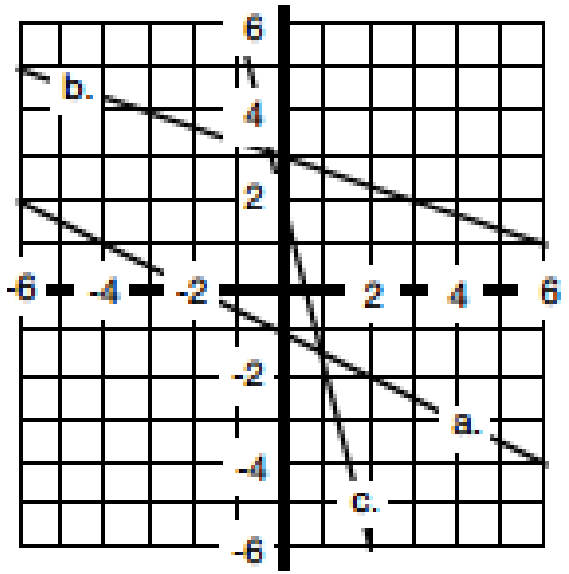


Equation A	
Equation B	
Equation C	

Stretch 1

Find the equation of these straight line graphs.



Equation A	
Equation B	
Equation C	

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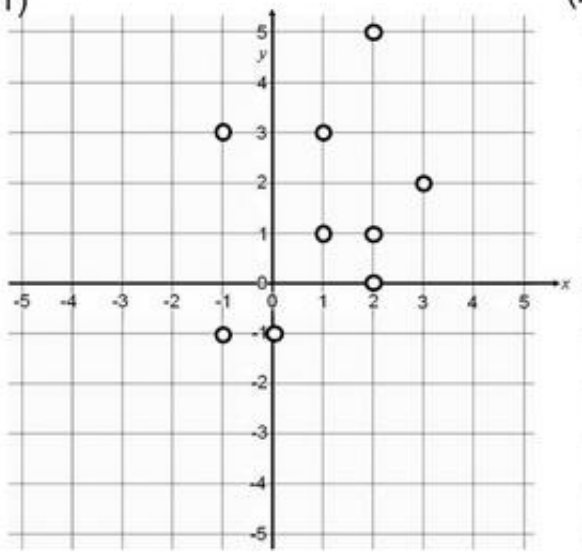
Stretch 2

Stretch 2 resource from http://donsteward.blogspot.co.uk/2013/11/4-in-line-further-extended.html

try to join the 9 points by just three straight lines and find a missing point to make 4-in-a-line on each line

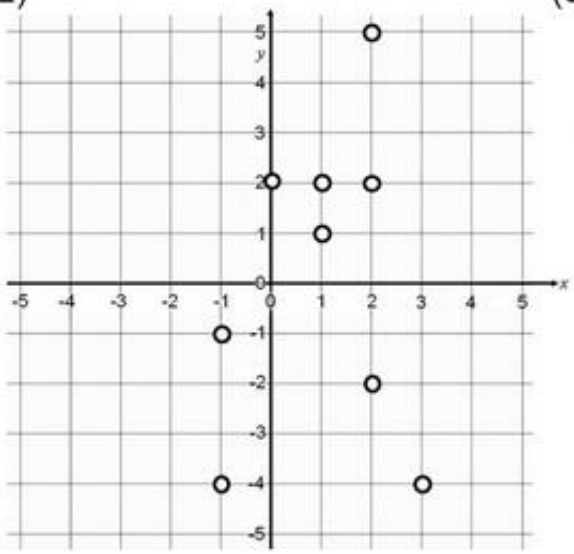
what are the equations of the three lines for each question?

(1)



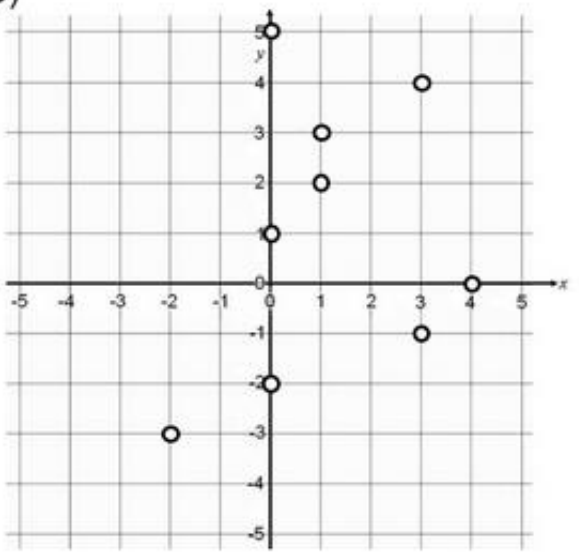
Equation A	
Equation B	
Equation C	

(2)



Equation A	
Equation B	
Equation C	

(3)



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2) Coordinate A - (4,3)
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3) Coordinate A - (4,7)
Coordinate B – (16,13)
$\frac{1}{2}$

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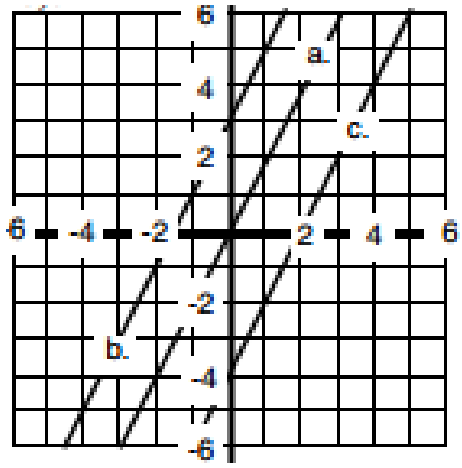
Coordinate B – (4,8)
$\frac{2}{3}$

5) Coordinate A - (-2,7)
Coordinate B – (0,15)
4

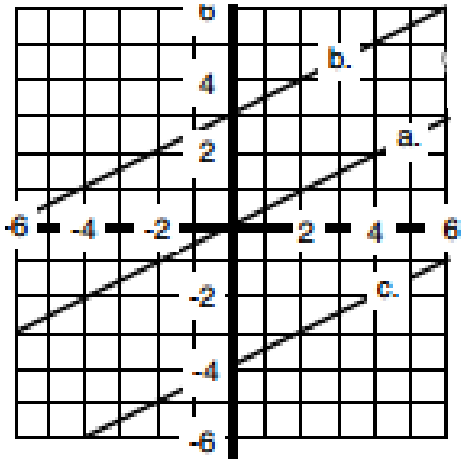
6) Coordinate A - (-4,-4)
Coordinate B – (-1,11)
5

Skill 2

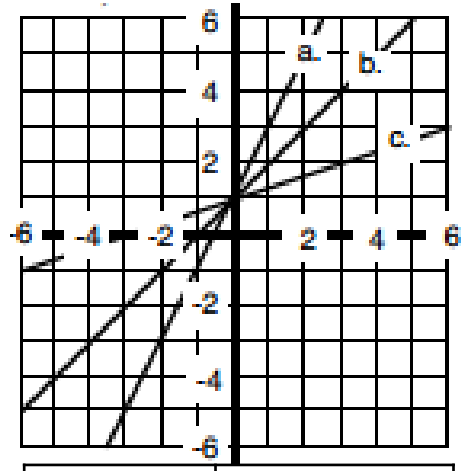
Find the equation of these straight line graphs.



Equation A	Y=2x
Equation B	Y=2x+3
Equation C	Y=2x-4



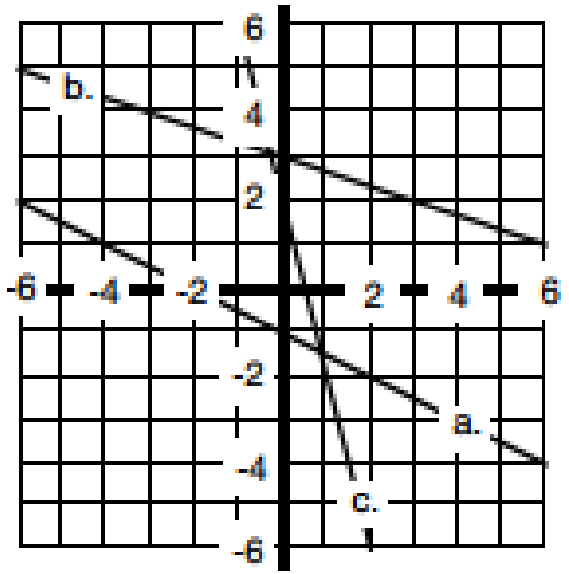
Equation A	$Y=\frac{1}{2}x$
Equation B	$Y=\frac{1}{2}x+3$
Equation C	$Y=\frac{1}{2}x - 4$



Equation A	Y=2x+1
Equation B	Y=x+1
Equation C	$Y=\frac{1}{3}x+1$

Stretch 1

Find the equation of these straight line graphs.



Equation A	$Y=-\frac{1}{2}x - 1$
Equation B	$Y=-\frac{1}{3}x + 3$
Equation C	$Y= - 4x + 2$

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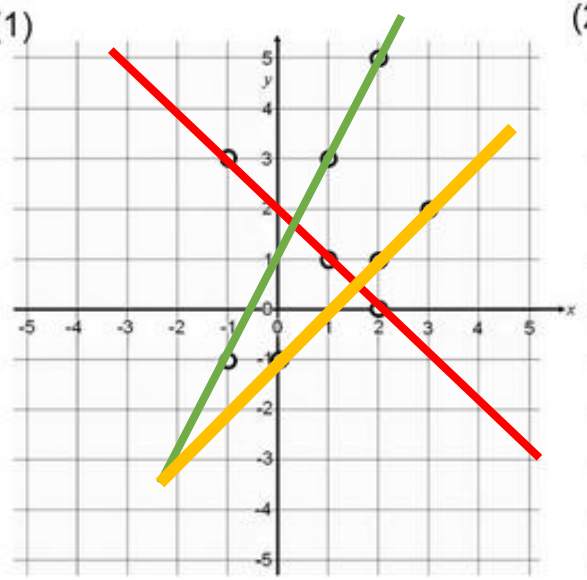
Stretch 2

try to join the 9 points by just three straight lines and find a missing point to make 4-in-a-line on each line

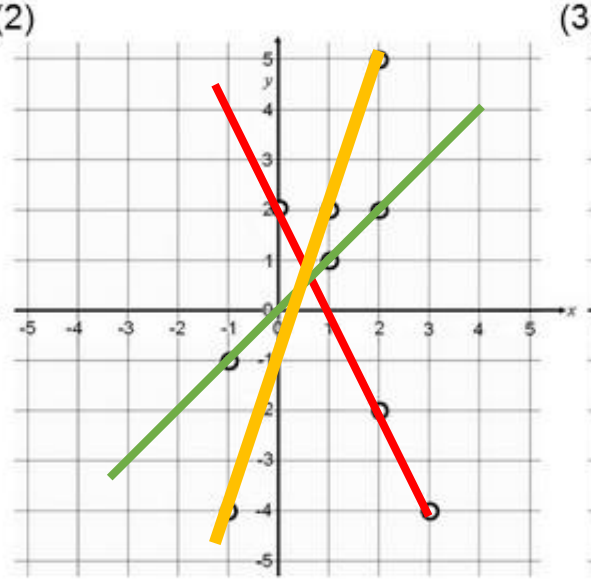
what are the equations of the three lines for each question?

(1)



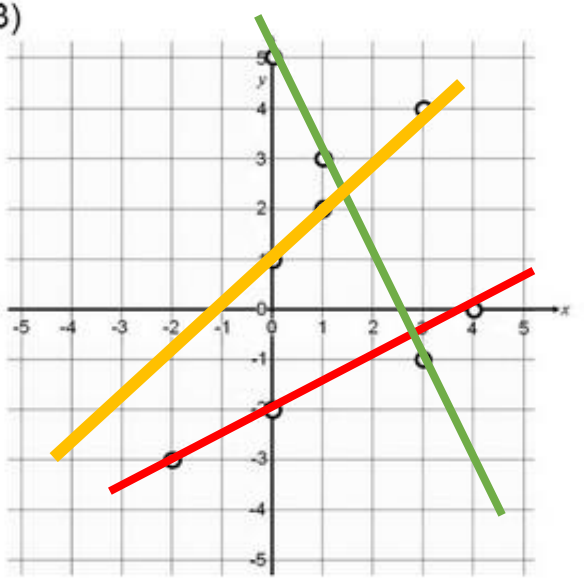
Equation A	Y =-x +2
Equation B	Y=2x+1
Equation C	Y= x - 1

(2)



Equation A	Y = -2x +2
Equation B	Y=x
Equation C	Y= 3x - 1

(3)



Equation A	$Y=\frac{1}{2}x -2$
Equation B	Y= -2x + 5
Equation C	Y= x + 1