QUESTION 1 Write down the gradient and y-intercept for each equation.

a $y = 3x + 2$

gradient = _____

y-intercept = _____

b $y = 2x - 3$

gradient = _____

y-intercept = _____

c $y = -4x + 1$

gradient = _____

y-intercept = _____

d $y = 5x$

gradient = _____

y-intercept = _____

e $y = -2$

gradient = _____

y-intercept = _____

f $y = 6 - 5x$

gradient = _____

y-intercept = _____

QUESTION 2 Write down the equation of the line with given gradient and y-intercept.

a gradient = 5, y-intercept = 3

_____

b gradient = -2, y-intercept = 1

_____

c gradient = 1, y-intercept = -2

_____

d gradient = $\frac{1}{2}$, y-intercept = 0

_____

e gradient = $\frac{3}{4}$, y-intercept = -3

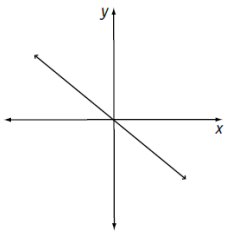
_____

f gradient = -1, y-intercept = $-\frac{1}{2}$

_____

QUESTION 1 State whether the gradient of each line is positive or negative.

a



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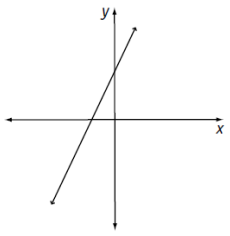
b



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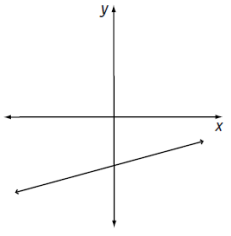
c



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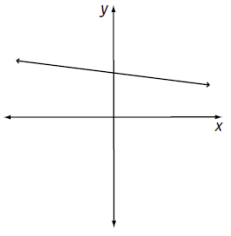
d



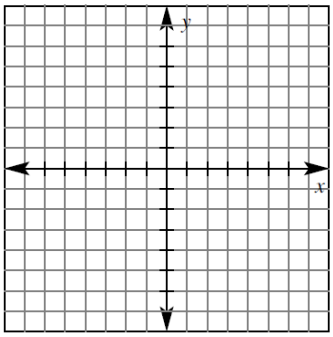
_____

QUESTION 3 Find the y-intercept and the gradient and hence sketch the graph of each line.

a $y = 2x + 3$

gradient: _____

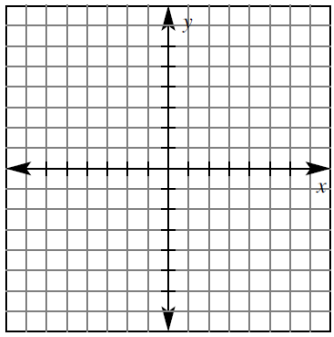
y-intercept: _____



b $y = x$

gradient: _____

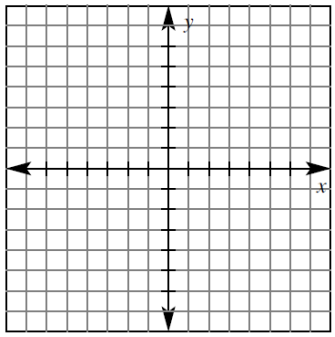
y-intercept: _____



c $y = \frac{1}{3}x + 4$

gradient: _____

y-intercept: _____



QUESTION **2** Find the gradient of any line parallel to:

a $y = 3x - 8$ **b** $y = -\frac{1}{2}x + 7$ **c** $4x - y + 7 = 0$

_____ _____ _____

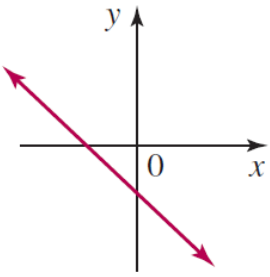
5 Write each equation in the gradient–intercept form, then write down the gradient and y-intercept.

a $4x - 2y + 3 = 0$ **b** $2x - 6y - 1 = 0$ **c** $3x + 4y + 12 = 0$ **d** $5x + 3y - 11 = 0$

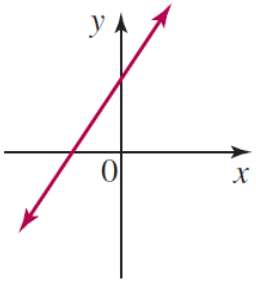
7 Choose the equation that best describes each of the lines below.

- $y = 3x + 4$
- $y = 3x - 4$
- $y = 4 - 3x$
- $y = -3x - 4$

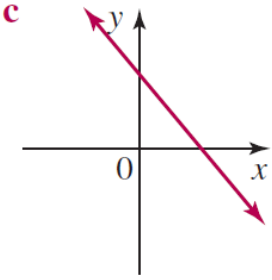
a



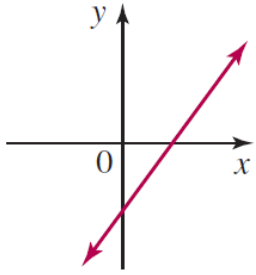
b



c



d



Question: Fill the table below with YES or NO (the first line has been done for you)

Line 1	Line 2	Are they parallel?
$y = 3x + 1$	$y = 3x - 2$	*YES (the gradients are the same)*
$y = x + 1$	$y = 2x + 1$	
$y = 2x + 1$	$y = -2x + 1$	
$y = x + 1$	$y = -x + 1$	
$y = x + 1$	$y = x + 3$	
$y = 3x + 1$	$y = 3x$	

Question: Fill the missing words in the sentences below:

Lines with the same gradient are _____. *(parallel/not parallel)*

If two lines intercept, it means that their gradients are _____. *(equal/different)*

QUESTION **4** A straight line $y = mx + 8$ passes through the point $(-2, 2)$. Find the value of m.

FILL THE TABLE BELOW (the first line has been done for you)

Line 1	Gradient	Coordinates of the y-intercept	Coordinates of another point
$y = 2x - 1$	2	*(0,-1)*	*(3,5)*
$y = x + 3$			
$y = 3x - 5$			
$y = -\frac{1}{2}x + 1$			
$y = \frac{1}{3}x + 3$			
$y = -x + 5$			
$y = x + 1$			
$y = -\frac{1}{2}x$			
$y = 2x + 3$			

Which ones are parallel to each other?

Draw these lines on a Cartesian plane.

4 Write down the equation of a line that has:

a a gradient of 2 and a y-intercept of 3

b a gradient of -1 and y-intercept of 4

c a slope of 3 and cuts the y-axis at -2

d a slope of $-\frac{1}{2}$ and cuts the y-axis at -6

e a gradient of $\frac{2}{3}$ and passes through the origin