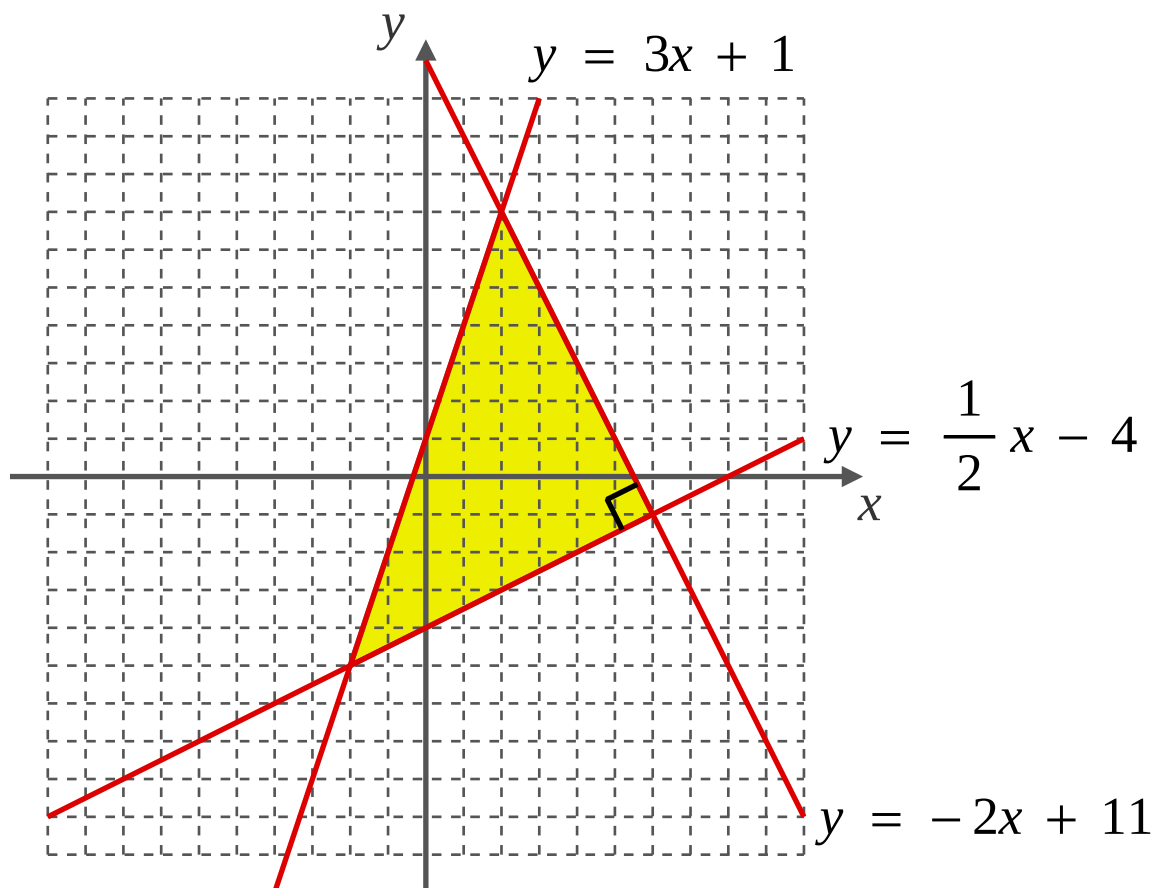


1.4 Answers

A-Level Pure Mathematics, Year 1
Additional Mathematics
GCSE
Coordinate Geometry

1.4.1 Solutions to 1.2 “Together” Exercise

Answer 1



[5 marks]

Answer 2

$$y = mx + c$$

$$1 = 2 \times 5 + c \Rightarrow c = -9 \Rightarrow \text{The line is thus, } y = 2x - 9$$

[3 marks]

Answer 3

$$\begin{aligned} m &= \frac{\Delta Y}{\Delta X} \\ &= \frac{20 - 11}{5 - 2} \\ &= \frac{9}{3} \\ &= 3 \end{aligned}$$

$$y = mx + c$$

$$11 = 3 \times 2 + c$$

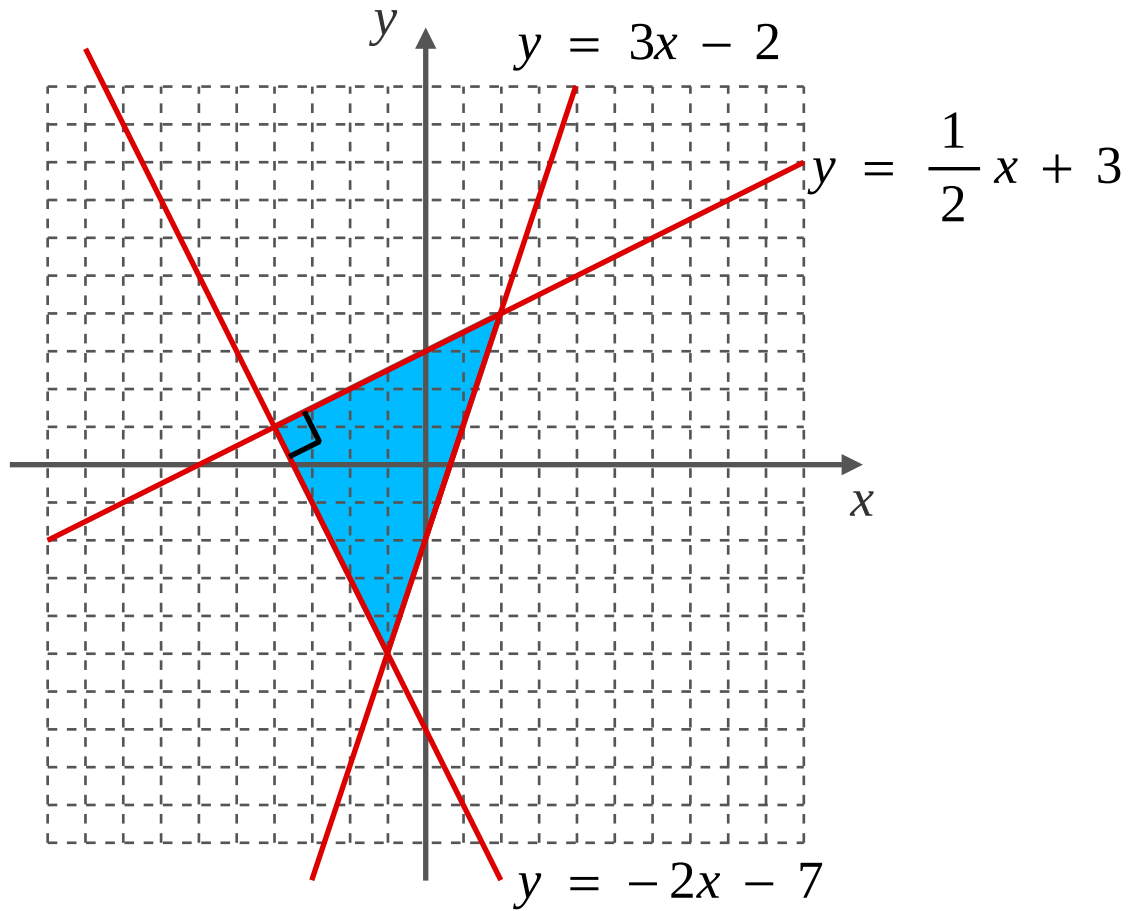
$$c = 5$$

$$\text{The line is thus, } y = 3x + 5$$

[3 marks]

1.4.2 Solutions to 1.3 Exercise

Answer 1



[5 marks]

Answer 2

$$y = mx + c$$

$$13 = 3 \times 2 + c$$

$$c = 7$$

The line is thus, $y = 3x + 7$

[3 marks]

Answer 3

$$m = \frac{\Delta Y}{\Delta X}$$

$$= \frac{17 - 5}{5 - 2}$$

$$= \frac{12}{3}$$

$$= 4$$

$$y = mx + c$$

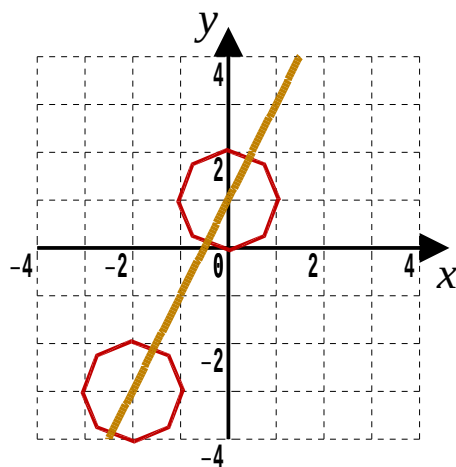
$$5 = 4 \times 2 + c$$

$$c = -3$$

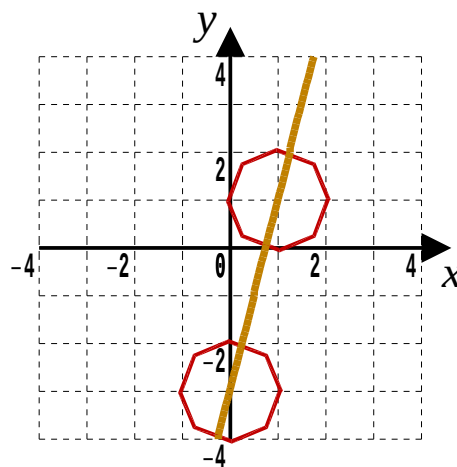
The line is thus, $y = 4x - 3$

[3 marks]

Answer 4

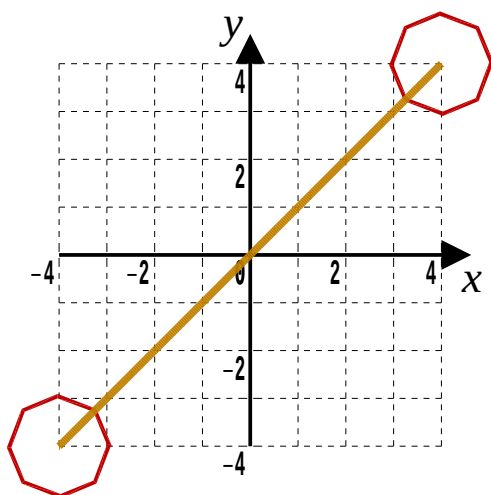


(i) $y = 2x + 1$

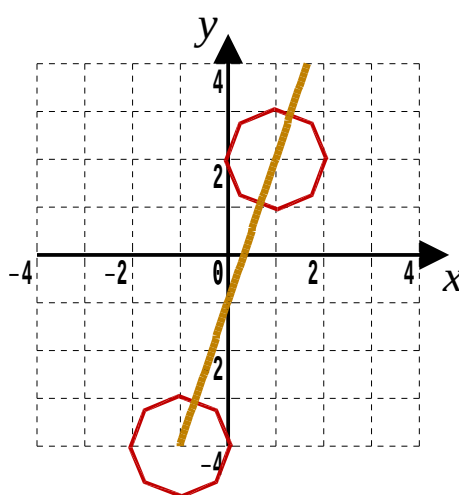


(ii) $y = 4x - 3$

[2, 2 marks]

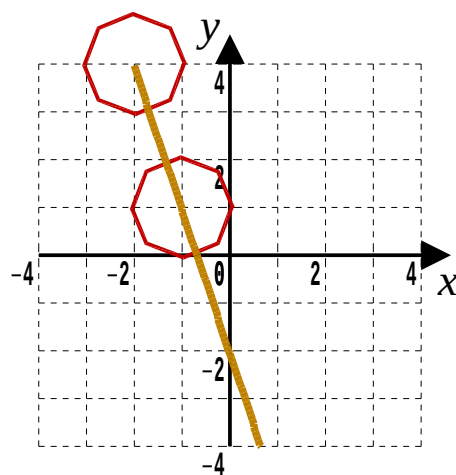


(iii) $y = x$

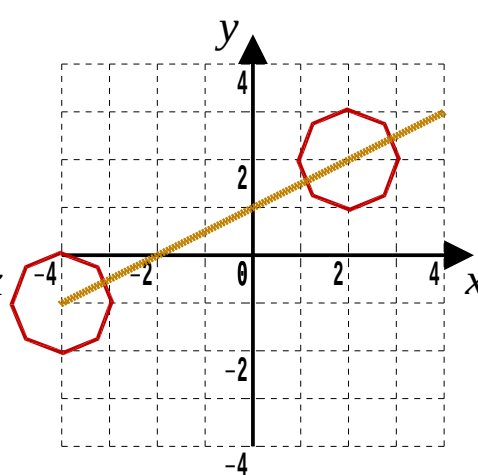


(iv) $y = 3x - 1$

[2, 2 marks]

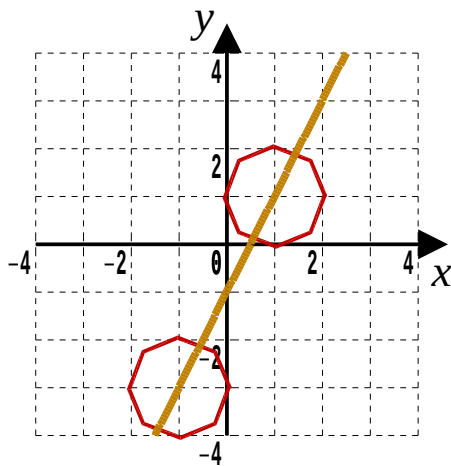


(v) $y = -3x - 2$

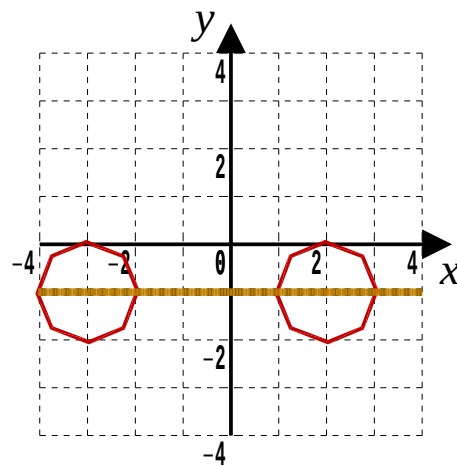


(vi) $y = \frac{1}{2}x + 1$

[2, 2 marks]

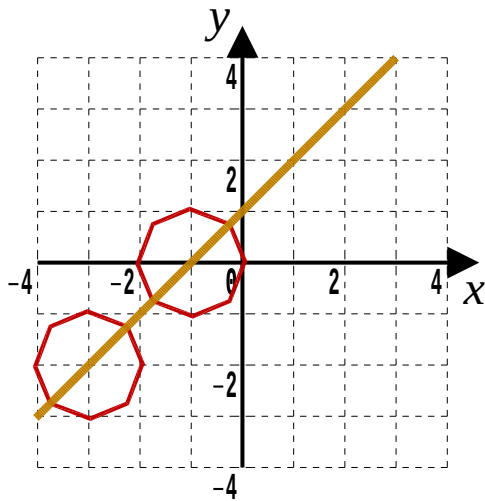


(vii) $y = 2x - 1$

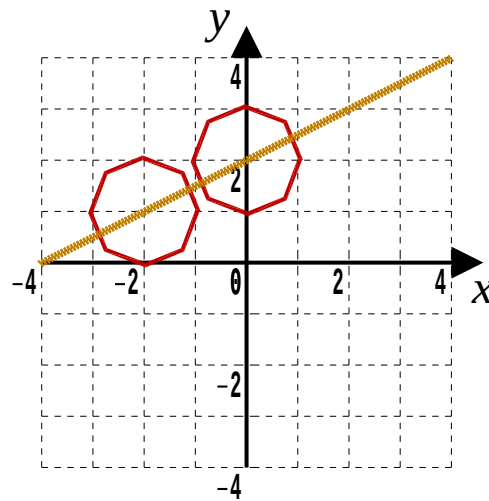


(viii) $y = -1$

[2, 2 marks]



(ix) $y = x + 1$



(x) $y = \frac{1}{2}x + 2$

[2, 2 marks]

Answer 5

(i) $y = 4x$ $y = x + 6$ $y = -2x - 6$

(ii) Area $\triangle A = 18$

(iii) Area $\triangle B = 9$

(iv) Area $\triangle C = 18$

$\therefore$ The area of the enclosed triangle is $6 \times 12 - 45 = 27$

Answer 6

$3\sqrt{10}$

Answer 7

$y = \frac{1}{2}x - 4$

Answer 8

$y = -4x + 17$

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In October 2020, Shrewsbury School was voted "**Independent School of the Year 2020**"

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Teachers may obtain detailed worked solutions to the exercises by email from MHShrewsbury@gmail.com