WJEC June 2018 Q11

The coordinates of the points $A$ and $B$ are (10, 16) and (–6, 8) respectively.

(a) Calculate the length of the line $AB$.
Express your answer as a surd in its simplest form, $n\sqrt{m}$. [3]

(b) Find the equation of the straight line **perpendicular** to $AB$ that passes through the midpoint of $AB$.
Express your answer in the form $y = mx + c$.
Give your answer in its simplest form. [8]

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WJEC Summer 2014 Q13

The following equations represent straight lines.

$$2x + 4y = 7$$
$$2x + 5y = 7$$
$$x + 2y = 7$$
$$4x - 2y = 7$$
$$2x - 4y = 7$$

(a) Which equations represent lines that are parallel?
You must explain how you know that these lines are parallel. [2]

(b) Write down any two of the equations that represent lines that are perpendicular.
You must explain how you know that these lines are perpendicular. [3]

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WJEC June 2011 Q3

The coordinates of the points $A$ and $B$ are (2, 8) and (4, –6) respectively.

(a) Calculate the length of the line $AB$.

[2]

(b) Find the equation of the straight line perpendicular to $AB$ that passes through the mid-point of $AB$.

[7]

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## WJEC June 2017 Q6

The coordinates of the points *F* and *G* are (8, 20) and (–4, 10) respectively.

*(a)* Calculate the length of the line *FG*.
Express your answer as a surd in its simplest form, $n\sqrt{m}$. [3]

*(b)* Find the equation of the straight line **perpendicular** to *FG* that passes through the mid-point of *FG*.
Express your answer in the form $ax + by + c = 0$, where $a$, $b$ and $c$ are integers.
Give your answer in its simplest form. [9]

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## WJEC June 2016 Q7

The coordinates of the points *F* and *G* are (–2, 14) and (4, 6) respectively.

*(a)* Calculate the length of the line *FG*. [2]

*(b)* Find the gradient of the straight line that passes through points *F* and *G*. [2]

*(c)* Find the equation of the straight line that
- passes through the mid-point of the line *FG*, and
- is perpendicular to the line *FG*.

Express your answer in the form $ax + by + c = 0$, where $a$, $b$ and $c$ are integers. [6]

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## WJEC June 2015 Q4

The coordinates of the points *D* and *E* are (6, 22) and (–4, 14) respectively.

*(a)* Calculate the length of the line *DE*.
Express your answer as a surd in its simplified form $n\sqrt{m}$. [3]

*(b)* Find the equation of the straight line perpendicular to *DE* that passes through the mid-point of *DE*.
Express your answer in the form $ax + by + c = 0$, where $a$, $b$ and $c$ are integers. [8]

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## WJEC June 2014 Q7

The coordinates of the points *D* and *E* are (–1, 13) and (5, 5) respectively.

*(a)* Calculate the length of the line *DE*. [2]

*(b)* Find the gradient of the straight line that passes through points *D* and *E*. [2]

*(c)* Find the equation of the straight line that passes through points *D* and *E*.
Express your answer in the form $ax + by = c$, where $a$, $b$ and $c$ are whole numbers. [4]

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WJEC June 2013 Q4

The coordinates of the points $A$ and $B$ are (3, 9) and (–5, 7) respectively.

*(a)* Calculate the length of the line $AB$.
Express your answer as a surd in its simplified form $a\sqrt{b}$.

[3]

*(b)* *You will be assessed on the quality of your written communication in this part of the question.*
Find the equation of the straight line perpendicular to $AB$ that passes through the midpoint of $AB$. Express your answer in the form $y = mx + c$.

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[10]

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WJEC June 2012 Q7

The coordinates of the points $R$ and $S$ are (5, 7) and (15, 31) respectively.

*(a)* Calculate the length of the line $RS$.

[2]

*(b)* Find the gradient of a straight line perpendicular to $RS$.

[3]

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