

Name: \_\_\_\_\_

Level 2 Further Maths

## Midpoint of a Line Ratio



Corbettmaths

Ensure you have: Pencil or pen

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

[www.corbettmaths.com/more/further-maths/](http://www.corbettmaths.com/more/further-maths/)



1. AB is a straight line

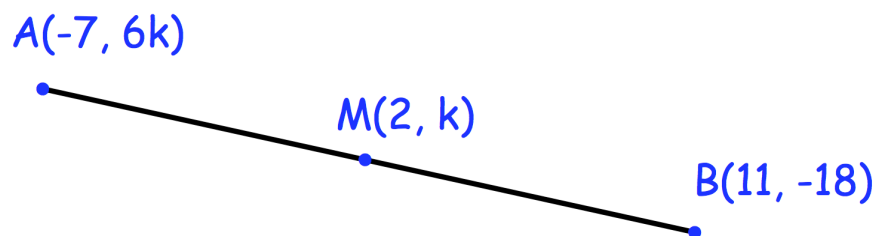
The coordinates of A are  $(-9, -4)$

The midpoint of AB is  $(8, 1.5)$

Work out the coordinates of B

.....  
(2)

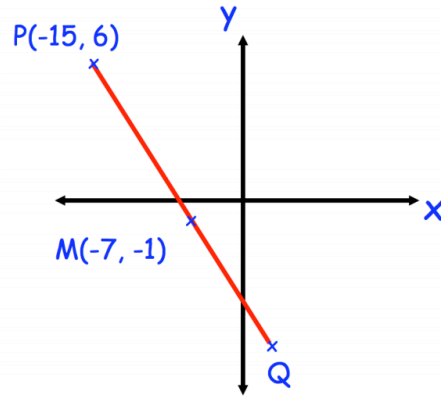
2. M is the midpoint of AB



Work out the value of k

.....  
(3)

3. M is the midpoint of PQ.



P is the point  $(-15, 6)$   
M is the point  $(-7, -1)$

Work out the coordinates of point Q.

.....  
**(3)**

4. M is the midpoint of the line AB.  
The coordinates of the point M are  $(7, 2)$   
The coordinates of the point B are  $(11, 8)$   
The coordinates of the point C are  $(7, -4)$

Find the area of triangle ACM.

.....  
**(3)**

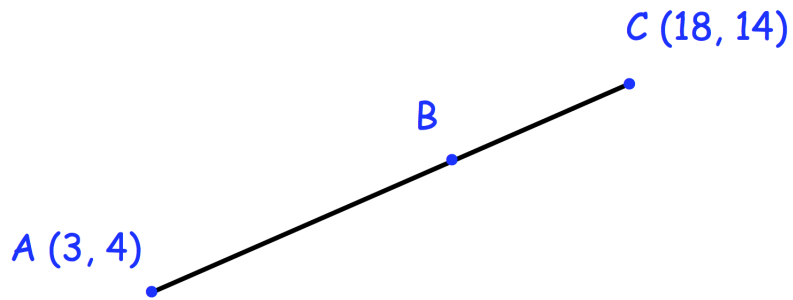
5. P is the point  $(-10, 8)$   
R is the point  $(10, 4)$   
Q is the point  $(2, -10)$

A is the midpoint of the line PQ.  
B is the midpoint of the line PR.  
M is the midpoint of the line AB.

Find the coordinates of the point M

.....  
**(4)**

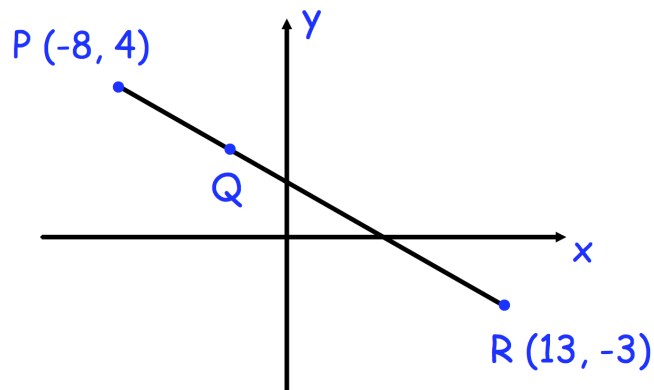
6. ABC is a straight line.  
AB : BC = 3 : 2



Work out the coordinates of the point B

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(3)

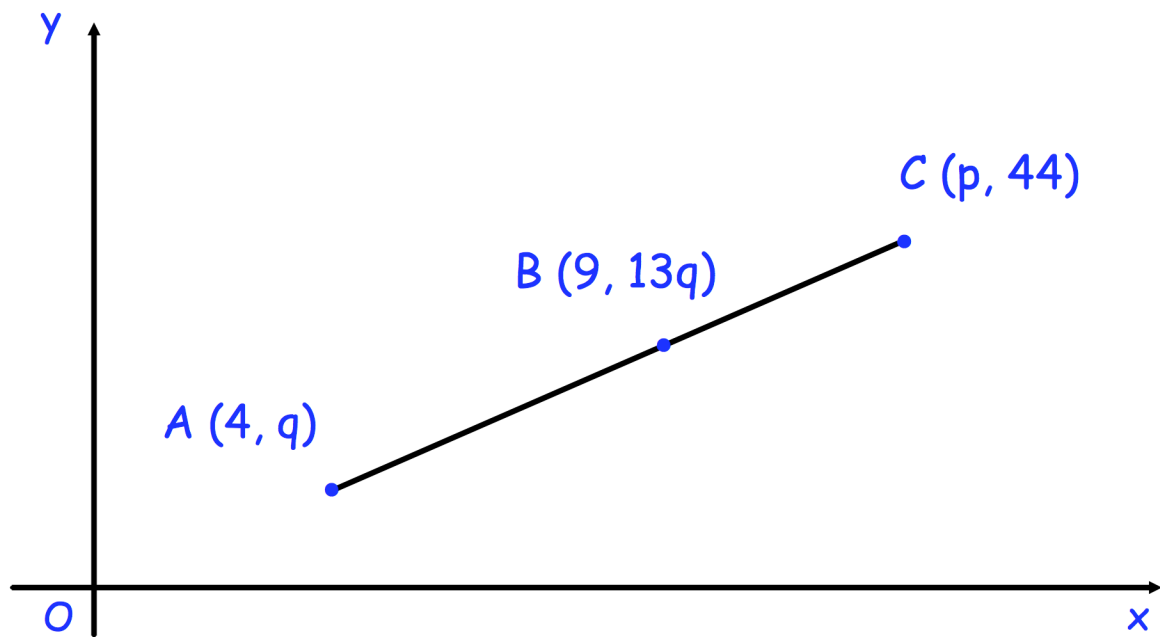
7. PQR is a straight line.  
PQ : QR is 2 : 5



Work out the coordinates of the point Q

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(3)

8. ABC is a straight line.  
AB : BC = 4 : 3



- (a) Find the value of p

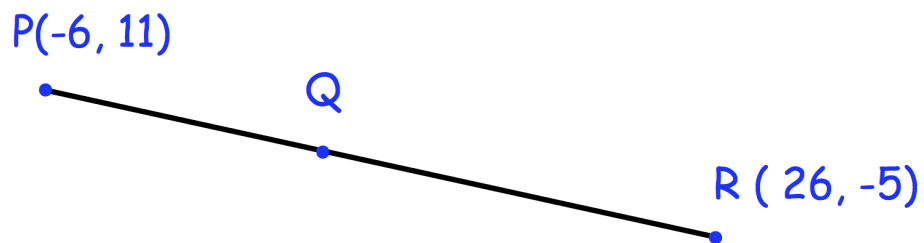
.....  
(2)

- (b) Find the value of q

.....  
(3)

9. PQR is a straight line.  
P is the point  $(-6, 11)$   
R is the point  $(26, -5)$

$$PQ : PR = 3 : 8$$



Work out the coordinates of the point  $Q$

.....  
**(3)**

10.  $A(-5, -2)$  and  $B(31, -20)$  are joined by a straight line.

P is a point on AB.

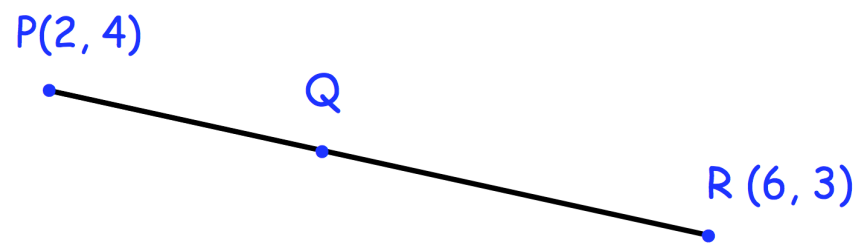
AP : PB is 7 : 2

Work out the coordinates of the point P.

.....  
**(3)**



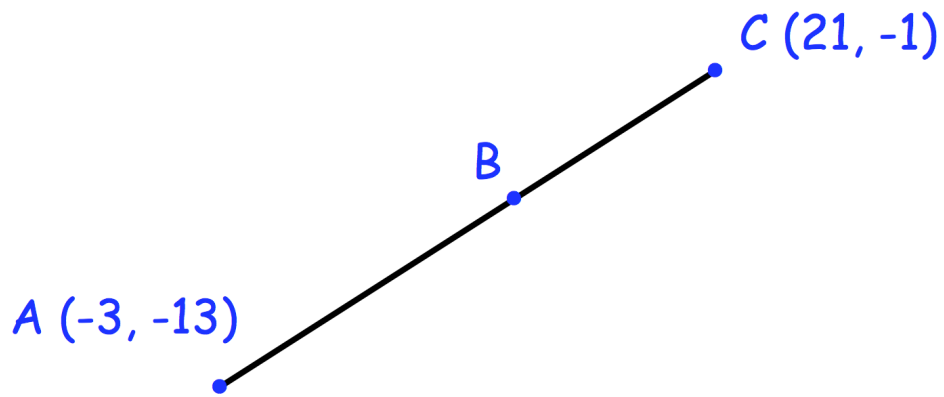
11. PQR is a straight line.



QR is 50% longer than PQ  
Work out the coordinates of Q.

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(4)

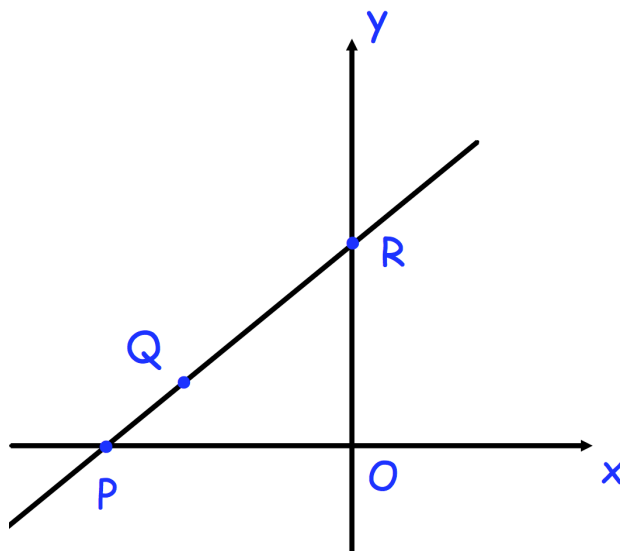
12. ABC is a straight line.  
AB is 40% longer than BC.



Work out the coordinates of B.

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(4)

13. The line  $3x - 2y + 24 = 0$  passes through P, Q and R.

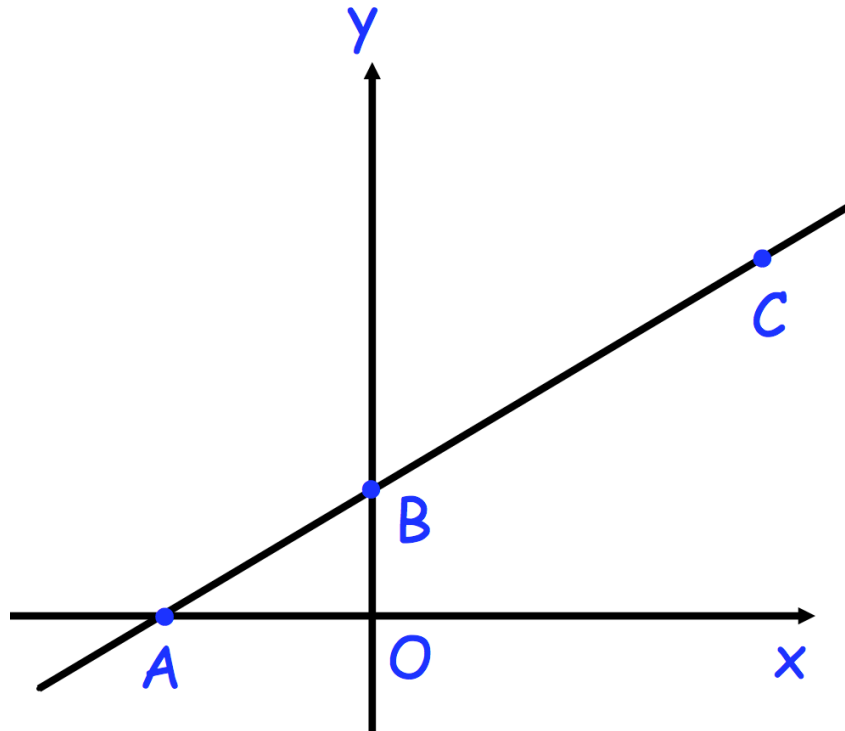


$$PQ : QR = 1 : 3$$

Find the equation of the straight that passes through points Q and O.

.....  
(4)

14. A, B and C are points on the line  $5x - 3y + 12 = 0$



$$AB : BC = 2 : 7$$

Work out the area of triangle OBC.

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(6)