

## Workout

### Question 1

- (a)  $x = -5$  and  $y = -2$ ,  $x = 1$  and  $y = 4$
- (b)  $x = -3$  and  $y = -8$ ,  $x = 3$  and  $y = -2$
- (c)  $x = 1$  and  $y = 1$ ,  $x = 3$  and  $y = 5$
- (d)  $x = -4$  and  $y = -3$ ,  $x = 1$  and  $y = 12$
- (e)  $x = -4$  and  $y = 29$ ,  $x = -2$  and  $y = 7$
- (f)  $x = -0.5$  and  $y = -0.75$ ,  $x = 2$  and  $y = 8$

### Question 2

- (a)  $x = -5$  and  $y = 9$ ,  $x = 1$  and  $y = 3$
- (b)  $x = 2$  and  $y = 5$ ,  $x = 5$  and  $y = 2$
- (c)  $x = 2$  and  $y = 3$ ,  $x = 3$  and  $y = 2$
- (d)  $x = -2$  and  $y = 0$ ,  $x = 3$  and  $y = 10$
- (e)  $x = -5$  and  $y = -2$ ,  $x = -2$  and  $y = -5$
- (f)  $x = -6$  and  $y = 1$ ,  $x = 2$  and  $y = -3$
- (g)  $x = 6$  and  $y = 21$ ,  $x = 7$  and  $y = 31$
- (h)  $x = -0.6$  and  $y = 0.8$ ,  $x = 1$  and  $y = 0$
- (i)  $x = -2$  and  $y = 15$ ,  $x = 4$  and  $y = -15$
- (j)  $x = -0.3333\dots$  and  $y = 0.3333\dots$
- (k)  $x = 1$  and  $y = 3$ ,  $x = 2.333\dots$  and  $y = 0.333\dots$
- (l)  $x = -9$  and  $y = -2$ ,  $x = 23$  and  $y = 6$

### Question 3

- (a)  $x = 3$  and  $y = 1$ ,  $x = 6.333\dots$  and  $y = -5.666\dots$
- (b)  $x = -4.284$  and  $y = -1.284$ ,  $x = 1.284$  and  $y = 4.284$
- (c)  $x = -0.2915$  and  $y = -0.2915$ ,  $x = 10.2915$  and  $y = 10.2915$
- (d)  $x = 1.14$  and  $y = -2.72$ ,  $x = 2.19$  and  $y = -0.613$
- (e)  $x = -4.46$  and  $y = 8.42$ ,  $x = 1.46$  and  $y = -3.42$
- (f)  $x = -4.46$  and  $y = -6.46$ ,  $x = 2.46$  and  $y = 0.46$

## Apply

Question 1:  $(-3, 6)$  and  $(6, -3)$

Question 2: 2 points of intersection and they are  $(-2, -10)$  and  $(2, -6)$

Question 3: The distance is  $\sqrt{8}$  (or 2.8284) as the points are  $(-2, 2)$  and  $(0, 4)$

Question 4:  $(-3, 8)$  and  $(9/5, 176/25)$

Question 5:  $(2, 7)$  as only one solution, it is tangent

Question 6: A and B are the points  $(2.25, -1.5)$  and  $(4, 2)$ . Since the gradient of AB is 2 and the gradient of BC is  $-1/2$ , the lines are perpendicular. Therefore ABC is a right angled triangle.