# Additional Mathematics Exercise 9 Answers

**(*Straight Lines*)**

1. $\left(\frac{5}{3},\frac{10}{3}\right),\left(\frac{19}{3},\frac{14}{3}\right)$
2. (a) $\left(\frac{5k+2}{k+1},\frac{3k}{k+1}\right)$ (b) 17 : 4
3. $\frac{19}{4},-\frac{5}{4}$
4. (3, 6), (5, 2), (1, 2), 8
5. (a) $\frac{1}{2}(3y+47)$ (b) $y = 6$, maximum area $= \frac{65}{2}$
6. 45°
7. (a) 62.1° (b) (i) – (ii) 27.9°
8. $\frac{5}{2},-\frac{2}{5}$
9. $11x-7y+7=0,\ 13x+y-1=0$
10. $\frac{8}{17}x+\frac{15}{17}y-2=0, \theta = 61.93°, p = 2$
11. (a) $\frac{11}{15}$ (b) $\frac{8}{\sqrt{90}}$
12. 6, –14
13. $\left(\frac{1+\sqrt{130}}{2},\frac{1-\sqrt{130}}{2}\right),\left(\frac{1-\sqrt{130}}{2},\frac{1+\sqrt{130}}{2}\right)$
14. (6, 7)
15. (a) 3

    (b) (i) 45° (ii) $\frac{1}{7},-7$

    (c) $x-7y+19=0,\ 7x+y-17=0$
16. (a) $y=-4x+c$ (b) $y=-4x+8$
17. (a) $y=m(x-1)+3$ (b) $2x+y-5=0,\ x-2y+5=0$
18. (a) $(2+k)x+(4-k)y-3+5k=0$

    (b) (i) $y=\frac{13}{6}$ (ii) $4x+2y+7=0$
19. (a) $\left(-\frac{25}{7},\frac{6}{7}\right)$ (b) $x+3y+1=0$

    (c) $7x-21y+43=0,\ 21x+7y+69=0$