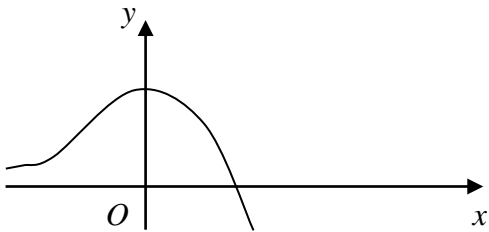
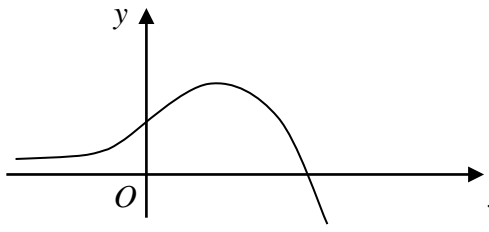
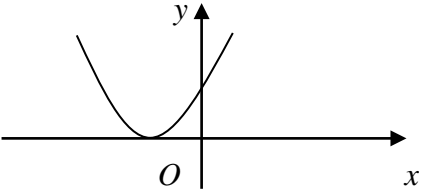


EDEXCEL CORE MATHEMATICS C1 (6663)SPECIMEN PAPER MARK SCHEME

Question number	Scheme	Marks
1.	$a = 7, d = 2$ $S_{20} = \frac{1}{2} \times 20 \times (2 \times 7 + 19 \times 2) = 520$	B1 M1 A1 (3 marks)
2.	$\int (5x + 3\sqrt{x}) dx = \frac{5x^2}{2} + 2x^{\frac{3}{2}} + C$	M1 A1 A1 B1 (4 marks)
3. (a) (b)	$\sqrt{80} = 4\sqrt{5}$ $(4 - \sqrt{5})^2 = 16 - 8\sqrt{5} + 5 = 21 - 8\sqrt{5}$	B1 (1) M1 A1 A1 (3) (4 marks)
4.	Gradient of $AB = \frac{4 - (-6)}{3 - 7} \left(= -\frac{5}{2} \right)$ Gradient of $l = \frac{2}{5}$ $y - 4 = \frac{2}{5}(x - 3) \qquad 2x - 5y + 14 = 0$	M1 A1 M1 M1 A1 (5) (5 marks)
5. (a) (b)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>Position, Shape</p> <p>(0, 2), (2, 0)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>Position, Shape</p> <p>(0, 1), $\left(\frac{1}{2}, 2\right)$, $\left(\frac{3}{2}, 0\right)$</p> </div> </div>	B1 B1 B1 (3) B1 B2 (1, 0) (3) (6 marks)

EDEXCEL CORE MATHEMATICS C1 (6663)SPECIMEN PAPER MARK SCHEME

Question number	Scheme	Marks
<p>6. (a)</p> <p>(b)</p>	$5 - 2x = 2x^2 - 3x - 16$ $(2x - 7)(x + 3) = 0$ <p>Using critical values $x = -3,$</p> $x < -3,$ $2x^2 - x - 21 = 0$ $x = -3, x = \frac{7}{2}$ $y = 11, y = -2$ $x = \frac{7}{2}$ $x > \frac{7}{2}$	<p>M1 A1</p> <p>M1 A1</p> <p>M1 A1ft (6)</p> <p>M1</p> <p>M1 A1ft (3)</p> <p>(9 marks)</p>
<p>7. (a)</p> <p>(b)</p> <p>(c)</p>	$a + (n - 1)d = 250 + (10 \times 50) = \text{£}750$ $\frac{1}{2}n [2a + (n - 1)d] = \frac{1}{2} \times 20 \times (500 + 19 \times 50), = \text{£}14500$ $B: \frac{1}{2} \times 20 \times (2A + 19 \times 60) [= 10(2A + 1140)], = \text{“}14500\text{”}$ <p>Solve for A: $A = 155$</p>	<p>M1 A1 (2)</p> <p>M1 A1, A1 (3)</p> <p>B1, M1</p> <p>M1 A1 (4)</p> <p>(9 marks)</p>
<p>8. (a)</p> <p>(b)</p> <p>(c)</p> <p>(d)</p>	$a = 5, \quad (x + 5)^2 - 25 + 36 \quad b = 11$ $b^2 - 4ac = 100 - 144, < 0, \text{ therefore no real roots}$ <p>Equal roots if $b^2 - 4ac = 0$ $4k = 100$ $k = 25$</p>  <p>Shape, position</p> <p>$(-5, 0) (0, 25)$</p>	<p>B1, M1 A1 (3)</p> <p>M1 A1 (2)</p> <p>M1 A1 (2)</p> <p>B1 B1</p> <p>B1 B1ft (4)</p> <p>(11 marks)</p>

