

Bridging Material Self-Mark Answers

Answers

Indices:

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|------------|------------------------|------------------------|----------------------------------|---------------------------------|------------------------|
| 1. a^7 | 2. b | 3. $d^{-\frac{1}{6}}$ | 4. x^{12} | 5. $3t^2$ | 6. $15r^{\frac{7}{2}}$ |
| 7. $16t^4$ | 8. $25b^4$ | 9. $p^{\frac{9}{20}}$ | 10. $9x^{\frac{4}{5}}$ | 11. $b^{\frac{7}{4}}$ | 12. $y^{-\frac{1}{6}}$ |
| 1. $6x^3$ | 2. $10x^{\frac{1}{2}}$ | 3. $\frac{2}{3}x^{-1}$ | 4. $\frac{3}{4}x^{-\frac{1}{2}}$ | 5. $\frac{3}{5}x^{\frac{3}{4}}$ | |

Surds:

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|-----------------------------|-----------------------------|-----------------|--------------------------|--------------------------|---------------------------|
| 1. $\sqrt{15}$ | 2. $2\sqrt{3}$ | 3. $7\sqrt{3}$ | 4. $\frac{\sqrt{10}}{2}$ | 5. $\frac{2\sqrt{3}}{3}$ | 6. $\frac{3\sqrt{5}}{10}$ |
| 7. $\frac{18+6\sqrt{2}}{7}$ | 8. $\frac{5-2\sqrt{3}}{13}$ | | | | |
| a) $5\sqrt{2}cm^2$ | b) $6cm^2$ | c) $36cm^2$ | | | |
| a) $30\sqrt{3}cm$ | b) $4\sqrt{10}$ | c) $18\sqrt{2}$ | | | |

Factorising:

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|------------------------------|--------------------|---------------------|---------------------------------|
| 1. $(x+1)(x+3)$ | 2. $(x+2)(x+5)$ | 3. $(x-2)(x+1)$ | 4. $(x+4)(x-2)$ |
| 5. $(x-5)(x+3)$ | 6. $(x-2)(x-8)$ | 7. $(x-4)(x+4)$ | 8. $(x+15)(x+8)$ |
| 9. $(2x+1)(x+1)$ | 10. $(3x+1)(x-1)$ | 11. $(2x+1)(2x+3)$ | 12. $(4x+1)(x+4)$ |
| 1. $x = -4$ or -2 | 2. $x = -5$ or 1 | 3. $x = 8$ or -1 | 4. $x = \pm 5$ |
| 5. $x = 7$ or -6 | 6. $x = 0$ or 3 | 7. $x = -10$ or 6 | 8. $x = \frac{1}{2}$ or $x = 1$ |
| 9. $x = \frac{1}{3}$ or -4 | 10. $x = 4$ or 1 | 11. $x = 5$ or -2 | 12. $x = -6$ or -2 |

Completing the Square

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|--|--|------------------|-------------------|
| 1. $(x+1)^2 + 3$ | 2. $(x-2)^2 - 3$ | 3. $(x+6)^2 - 6$ | 4. $(x-2)^2 + 14$ |
| 5. $(x + \frac{3}{2})^2 + \frac{3}{4}$ | 6. $(x - \frac{1}{2})^2 - \frac{3}{4}$ | | |

(a) $2(x+2)^2 - 6$

(b) $2(x+3)^2 - 21$

(c) $3(x-2)^2 - 10$

(d) $4(x+1.5)^2 - 14$

(e) $2(x-0.75)^2 - 6.125$

(f) $5(x-2)^2 + 10$

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|-------------------------|--------------------------|-------------------------|---|
| 1. $x = 2 \pm \sqrt{6}$ | 2. $x = -1 \pm \sqrt{3}$ | 3. $x = 3 \pm \sqrt{5}$ | 4. $\frac{3}{2} \pm \frac{\sqrt{5}}{2}$ |
|-------------------------|--------------------------|-------------------------|---|

Quadratic Graphs

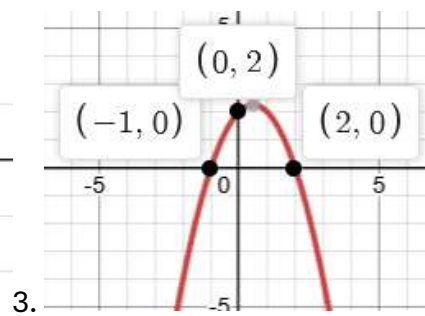
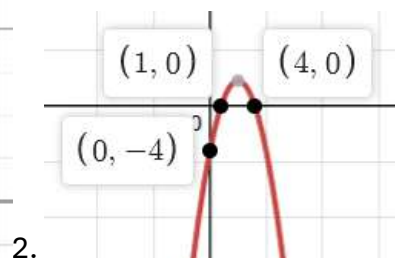
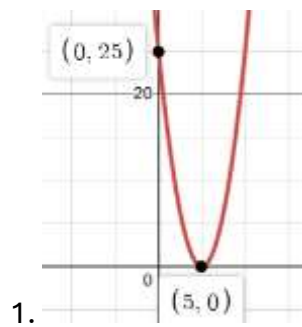
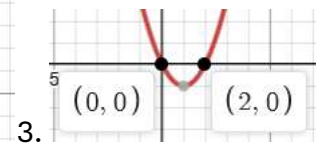
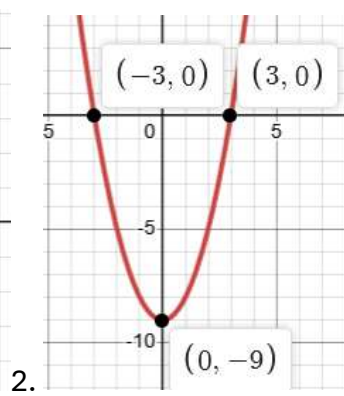
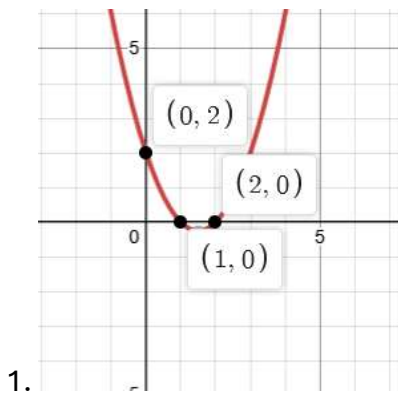
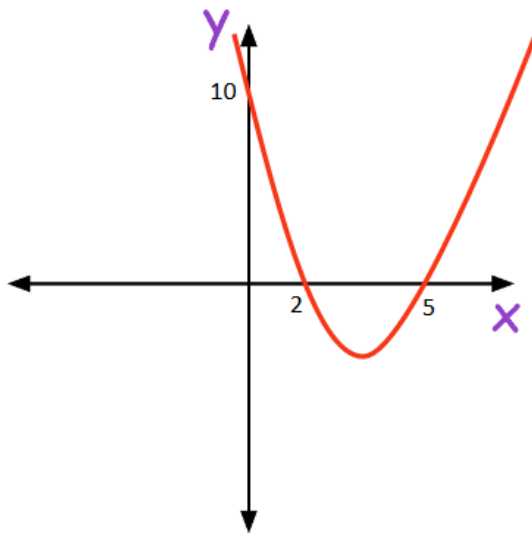
Question 1

1a) $y = 10$

b) It will cross at $(0,10)$

c) $x = 2$ and $x = 5$

d) It will cross at $(2,0)$ and $(5,0)$



Simultaneous Equations

Question 1:

(a) $x=2$
 $y=6$

(b) $x=1$
 $y=3$

(c) $x=3$
 $y=2$

Question 2:

(a) $x=5$
 $y=4$

(b) $x=5$
 $y=2$

(c) $x=4$
 $y=9$

1. $x = 1; y = 3$

2. $x = \frac{3}{5}, y = \frac{8}{5}$

3. $x = 7, y = 1$

4. $x = -\frac{17}{5}, y = \frac{6}{5}$

Straight Line Graphs

1. 3

2. 1.5

3. $-\frac{4}{5}$

4. $-\frac{4}{3}$

5. $\frac{6}{11}$

6. $-\frac{5}{8}$

7. $-\frac{1}{4}$

8. $\frac{2}{3}$

Trigonometry

a) 14.28 b) 12.44 c) 2.05

a) 41.76 b) 42.833 c) 36.87

d) 11.43 e) 24.46 f) 29.47

d) 19.5 e) 11.15 2. 70.67