

Note: Only turn back to page number if you have difficulty

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Q1. Solve these equations:

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- (a)  $7 + 3x = 9$       (b)  $19 - 5y = 44$       (c)  $7 - 2a = 13$   
 (d)  $16 - 5x = 20$       (e)  $7m + 23 = 2$       (f)  $25 + 12y = -2$   
 (g)  $18a + 57 = -21$       (h)  $15y - 32 = 61$       (i)  $13 - 5x = 48$

Q2. Solve these equations:

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- (a)  $-5x + 30 = 2 - 12x$       (b)  $3x + 72 = 14 - 9x$       (c)  $2x + 10 = 7x - 11$   
 (d)  $18x - 46 = 6x + 4$       (e)  $9 + 10x = 15x + 7$       (f)  $5 - 6x = 5x + 16$   
 (g)  $7 + 32x = 35x - 2$       (h)  $7x + 39 = 12 + 4x$       (i)  $3x - 2 = 8 + 15x$

Q3. Solve these equations:

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- (a)  $5(4a + 1) = 25$       (b)  $7(a - 2) = 5$       (c)  $3(7b - 2) = -69$   
 (d)  $9(15 - 8x) = 171$       (e)  $2(10 - 3y) = 56$       (f)  $6(5x - 14) = 66$   
 (g)  $5(5m - 32) = -60$       (h)  $4(16 - 9a) = 220$       (i)  $8(3y + 20) = 40$

Q4. Solve these equations by first expanding both sides:

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- (a)  $3(2x - 3) = 9(4x - 21)$       (b)  $3(3x + 4) = 3(2x - 5)$   
 (c)  $5(2y - 3) = 2(3y + 1)$       (d)  $2(x - 3) = 4(3x - 1)$   
 (e)  $10(2m + 1) = 6(3m + 4)$       (f)  $7(5 - 3b) = 8(2b - 5)$   
 (g)  $3(9x - 2) = 5(3x + 7)$       (h)  $12(8 - 5a) = 5(8a + 12)$

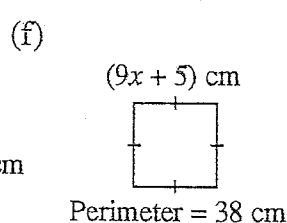
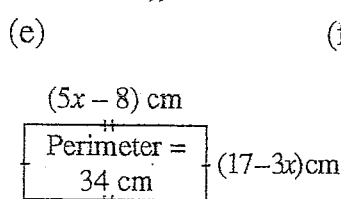
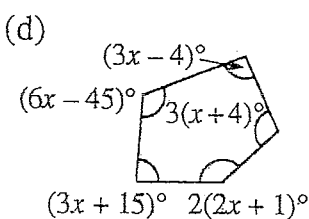
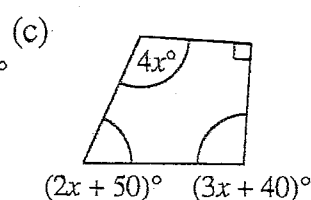
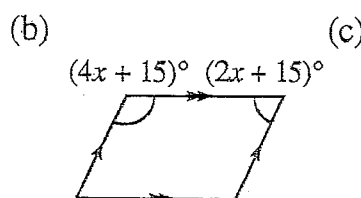
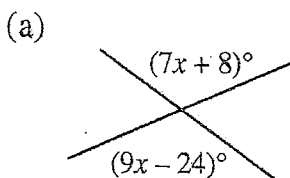
Q5. Solve these equations:

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- (a)  $\frac{18 - 2m}{5} = 2$       (b)  $\frac{12m}{5} - 3 = 2$       (c)  $\frac{9m}{2} + 15 = 6$   
 (d)  $\frac{21 + 3x}{6} = 3$       (e)  $5 - \frac{16x}{3} = 17$       (f)  $\frac{24 - 3x}{7} = 2$   
 (g)  $\frac{22 - 19x}{4} = -4$       (h)  $\frac{9x}{4} + 11 = 29$       (i)  $\frac{5(3x + 8)}{31} = 4$

Q6. Find the value of  $x$  in the following figures:

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### Level 3 — Equations (ANSWERS)

- Q1. (a)  $x = \frac{2}{3}$  (b)  $y = -5$  (c)  $a = -3$  (d)  $x = -\frac{4}{5}$  (e)  $m = -3$   
 (f)  $y = -2\frac{1}{4}$  (g)  $a = -4\frac{1}{3}$  (h)  $y = 6\frac{1}{5}$  (i)  $x = -7$
- Q2. (a)  $x = -4$  (b)  $x = -4\frac{5}{6}$  (c)  $x = 4\frac{1}{5}$  (d)  $x = 4\frac{1}{6}$  (e)  $x = \frac{2}{5}$   
 (f)  $x = -1$  (g)  $x = 3$  (h)  $x = -9$  (i)  $x = -\frac{5}{6}$
- Q3. (a)  $a = 1$  (b)  $a = 2\frac{5}{7}$  (c)  $b = -3$  (d)  $x = -\frac{1}{2}$  (e)  $y = -6$   
 (f)  $x = 5$  (g)  $m = 4$  (h)  $a = -4\frac{1}{3}$  (i)  $y = -5$
- Q4. (a)  $x = 6$  (b)  $x = -9$  (c)  $y = 4\frac{1}{4}$  (d)  $x = -\frac{1}{5}$  (e)  $m = 7$   
 (f)  $b = 2\frac{1}{37}$  (g)  $x = 3\frac{5}{12}$  (h)  $a = \frac{9}{25}$  (i)  $x = -7$
- Q5. (a)  $m = 4$  (b)  $m = 2\frac{1}{12}$  (c)  $m = -2$  (d)  $x = -1$  (e)  $x = -2\frac{1}{4}$   
 (f)  $x = 3\frac{1}{3}$  (g)  $x = 2$  (h)  $x = 8$  (i)  $x = 5\frac{3}{5}$
- Q6. (a)  $x = 16$  (b)  $x = 25$  (c)  $x = 20$  (d)  $x = 29\frac{9}{19}$  (e)  $x = 4$  (f)  $x = \frac{1}{2}$