

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

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Q1. Solve these equations (answers may be fractions):

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- (a) $5x + 1 = -5$ (b) $9 - 4x = 17$ (c) $4 + 6x = 12$
 (d) $8x + 5 = 18$ (e) $10 - 3x = 22$ (f) $6x - 15 = 25$
 (g) $16 + 9x = 19$ (h) $21x + 3 = -60$ (i) $12 - 3x = 4$

Q2. Solve these equations:

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- (a) $3(2a - 5) = -51$ (b) $2(6 - 2a) = 0$ (c) $4(9 - 3a) = 12$
 (d) $9(5 + 6a) = 72$ (e) $4(3a - 1) = 8$ (f) $6(2 + 5a) = 54$
 (g) $5(5 - 3a) = 85$ (h) $8(18 - 4a) = 48$ (i) $5(6a - 3) = 5$

Q3. Solve these equations:

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

Q4. Solve these equations by collecting pronumerals on to one side and numbers on to the other:

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- (a) $5x + 2 = 3x$ (b) $3 + 8x = 4x - 5$ (c) $3x + 9 = 2x + 12$
 (d) $3 + 6x = 5x + 18$ (e) $5x + 10 = 3x + 12$ (f) $7 - 3x = 9x + 43$
 (g) $2x - 5 = 4x + 5$ (h) $2x + 5 = 3x - 3$ (i) $5 - 2x = 3x - 15$

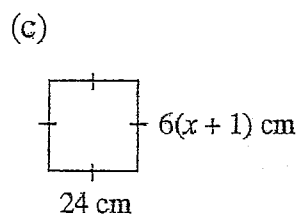
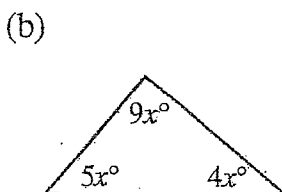
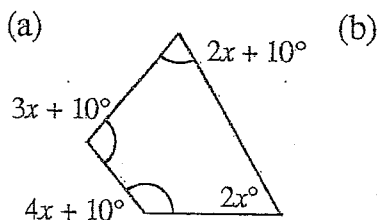
Q5. Solve these equations by first expanding:

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- (a) $3(x - 5) = 5x - 27$ (b) $4(x + 5) = 3(x + 6)$ (c) $3(9 - x) = 3(x - 1)$
 (d) $7(2 - x) = 2(8 - 3x)$ (e) $4(x + 3) = 12(2 - x)$ (f) $2(x - 7) = 5(x - 4)$
 (g) $6(x + 2) = 4(x + 6)$ (h) $6(x + 6) = 2(11 + 2x)$ (i) $5(3x - 4) = 4(3x - 8)$

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

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Q7. Given the formula $c^2 = a^2 + b^2$, find c if:

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- (a) $a = 3, b = 4$ (b) $a = 10, b = 24$ (c) $a = 9, b = 12$
 (d) $a = 10.8, b = 14.4$ (e) $a = 22, b = 52.8$ (f) $a = 1.5, b = 2$

Level 2 — Equations

- Q1. (a) $x = -1\frac{1}{5}$ (b) $x = -2$ (c) $x = 1\frac{1}{3}$ (d) $x = 1\frac{5}{8}$ (e) $x = -4$
(f) $x = 6\frac{2}{3}$ (g) $x = \frac{1}{3}$ (h) $x = -3$ (i) $x = 2\frac{2}{3}$
- Q2. (a) $a = -6$ (b) $a = 3$ (c) $a = 2$ (d) $a = \frac{1}{2}$ (e) $a = 1$
(f) $a = 1\frac{2}{5}$ (g) $a = -4$ (h) $a = 3$ (i) $a = \frac{2}{3}$
- Q3. (a) $m = 3$ (b) $m = 8$ (c) $m = -10$ (d) $m = 8$ (e) $m = 4\frac{1}{3}$
(f) $m = -5$ (g) $m = -6$ (h) $m = 9$ (i) $m = \frac{5}{7}$
- Q4. (a) $x = -1$ (b) $x = -2$ (c) $x = 3$ (d) $x = 15$ (e) $x = 1$
(f) $x = -3$ (g) $x = -5$ (h) $x = 8$ (i) $x = 4$
- Q5. (a) $x = 6$ (b) $x = -2$ (c) $x = 5$ (d) $x = -2$ (e) $x = \frac{3}{4}$
(f) $x = 2$ (g) $x = 6$ (h) $x = -7$ (i) $x = -4$
- Q6. (a) $x = 30$ (b) $x = 10$ (c) $x = 3$
- Q7. (a) $c = 5$ (b) $c = 26$ (c) $c = 15$ (d) $c = 18$ (e) $c = 57.2$ (f) $c = 2.5$