

Q1. Solve the following equations:

- (a) $-5(3x + 2) = -40$ (b) $-3(9 - 4x) = 9$ (c) $-(2x + 15) = 1$
 (d) $-9(8 + 5x) = -108$ (e) $-12(6x + 7) = 132$ (f) $-2(10x - 3) = -84$

Q2. Solve for x :

- (a) $3(3 + x) + 6(1 + x) = 51$ (b) $5(x + 2) - 4(x + 3) = 10$
 (c) $8(x + 5) - 2(x + 3) = 46$ (d) $2(4 + 3x) + 5(2x - 3) = 137$
 (e) $4(9 - 4x) - 3(16 - 3x) = 23$ (f) $5(2x - 3) + 5(2x + 3) = 30$

Q3. Solve:

- (a) $\frac{6+x}{3} + \frac{3x+7}{4} = 7$ (b) $\frac{2x+1}{3} + \frac{3x+2}{2} = 9$
 (c) $\frac{2-4x}{5} - \frac{2x-2}{2} = 5$ (d) $\frac{4x+7}{3} + \frac{2x+5}{5} = 14$
 (e) $\frac{2x-3}{5} + \frac{5-3x}{4} = 1$ (f) $\frac{3x+4}{4} + \frac{9+4x}{9} = 12$

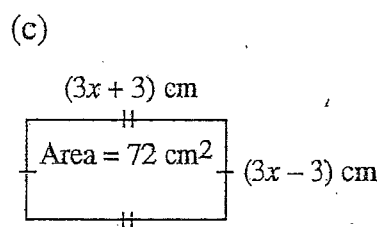
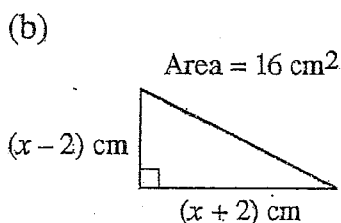
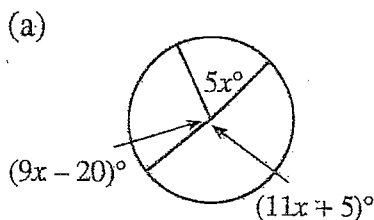
Q4. Solve for a :

- (a) $5(a + 3) + 4(a + 2) = 6(2a + 5) - 5(3a + 2)$
 (b) $2(a + 3) + 5(a + 2) = 4(9 - 4a) - 3(16 - 3a)$

Q5. Solve for m :

- (a) $\frac{2m-5}{5} = \frac{50-m}{7}$ (b) $\frac{5m-15}{4} = \frac{10+5m}{3}$ (c) $\frac{3m-12}{8} = \frac{30-2m}{2}$
 (d) $\frac{4m+4}{10} = \frac{5+3m}{8}$ (e) $\frac{6m-3}{5} = \frac{5m+3}{6}$ (f) $\frac{5-2m}{3} = \frac{9-3m}{5}$

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



Q7. Given the formula $A = \frac{1}{2}(a + b)h$, find:

- (a) A if $a = 5$, $b = 3$, $h = 9$ (b) A if $a = 9$, $b = 15$, $h = 8$
 (c) h if $A = 37.5$, $a = 7$, $b = 8$ (d) a if $A = 87.5$, $b = 10$, $h = 7$
 (e) b if $A = 252$, $a = 18$, $h = 12$ (f) a if $A = 360$, $b = 25$, $h = 16$

Level 4 — Equations (ANSWERS)

- Q1. (a) $x=2$ (b) $x=3$ (c) $x=-8$ (d) $x=\frac{4}{5}$ (e) $x=-3$ (f) $x=4\frac{1}{2}$
- Q2. (a) $x=4$ (b) $x=12$ (c) $x=2$ (d) $x=9$ (e) $x=-5$ (f) $x=1\frac{1}{2}$
- Q3. (a) $x=3$ (b) $x=3\frac{7}{13}$ (c) $x=-2$ (d) $x=6\frac{2}{13}$ (e) $x=-1$ (f) $x=8\frac{16}{43}$
- Q4. (a) $a=-\frac{1}{4}$ (b) $a=-2$
- Q5. (a) $m=15$ (b) $m=-17$ (c) $m=12$ (d) $m=9$ (e) $m=3$ (f) $m=-2$
- Q6. (a) $x=15$ (b) $x=6$ (c) $x=3$
- Q7. (a) $A=36$ (b) $A=96$ (c) $h=5$ (d) $a=15$ (e) $b=24$ (f) $a=20$