MATHLETICS

Equations and Formulae

Teacher Book - Series I-1

$$7(x - 8) = 6(x + 2)$$

Mathletics
Instant
Workbooks
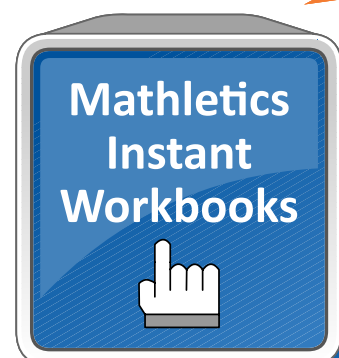
Equations and formulae

Topic Test

PART A

Instructions
This part consists of 12 multiple-choice questions
Each question is worth 1 mark
Fill in only ONE CIRCLE for each question
Calculators are NOT allowed

Time allowed: 15 minutes   **Total marks = 12**

Marks

1 If $\frac{n}{3} = 7$, n equals

   (A) 7   (B) 11   (C) 17   (D) 21   1

2 If $x - 10 = -2$, x equals

   (A) −12   (B) −8   (C) 8   (D) 12   1

3 If $2x - 5 = 21$, what is the value of x?

   (A) 6   (B) 8   (C) 13   (D) 26   1

4 If $\frac{m}{3} = 6$, find the value of m.

   (A) 2   (B) 3   (C) 9   (D) 18   1

5 If $2p - 5 = 23$, then p equals

   (A) 8   (B) 9   (C) 14   (D) 28   1

6 If $n + 3 = -4$ then n equals

   (A) −7   (B) −1   (C) 1   (D) 7   1

7 Solve for x, $5x + 3 = 2(x + 12)$

   (A) 3   (B) 5   (C) 9   (D) 7   1

8 If $2(t + 3) = t - 4$ then t equals

   (A) −10   (B) 2   (C) 8   (D) none of these   1

9 If $2(7 - x) = 3$ then x equals

   (A) 11   (B) −17   (C) $8\frac{1}{2}$ (D) $5\frac{1}{2}$ 1

10 $2(x - 3) = 3(2x + 4)$ then x equals

   (A) $1\frac{1}{2}$ (B) $\frac{1}{4}$ (C) $-4\frac{1}{2}$ (D) $-3\frac{3}{4}$ 1

11 If $\frac{x-3}{4} = \frac{x-2}{5}$, x equals

   (A) 7   (B) 9   (C) 6   (D) none of these   1

12 If $\frac{2x-1}{3} = \frac{x+1}{2}$, x equals

   (A) 5   (B) $\frac{5}{7}$ (C) −5   (D) 8   1

Total marks achieved for PART A   12

Equations and formulae

Topic Test

PART B

Questions	Answers only	Marks
Solve the following equations.		
1 $x - 7 = 30$		1
2 $\dfrac{x}{12} = 96$		1
3 $3x + 10 = 5x - 2$		1
4 $4(p + 7) = 30$		1
5 I think of a number, double it, add 8 and the result is 42. By solving the equation, find the number.		1
6 $\dfrac{x}{4} = \dfrac{2}{3}$		1
7 $\dfrac{5x}{3} + \dfrac{1}{2} = 4$		1
8 $2x - 3 = 5$		1
9 $\dfrac{x - 2}{3} = 10$		1
10 $3(x + 4) = x + 19$		1
11 $\dfrac{x + 6}{3} = \dfrac{2x + 4}{4}$		1
12 $4(2x - 5) = 0$		1
13 $\dfrac{x - 2}{3} + 5 = 9$		1
14 $3(x - 1) = 9$		1
15 $4x - 3 = 2x + 9$		1

Total marks achieved for PART B   ⟋ 15

Answers – Equations and formulae

PAGE 1 **1** **a** $x = 4$ **b** $a = 8$ **c** $m = 7$ **d** $b = 8$ **e** $a = 6$ **f** $n = 3$ **g** $x = 15$ **h** $x = 11$ **i** $y = 12$ **j** $p = 12$ **k** $t = 5$ **l** $a = 18$
m $y = -1$ **n** $x = -1$ **o** $x = 15$ **2** **a** $m = -5$ **b** $x = -2$ **c** $y = 5$ **d** $n = 6$ **e** $x = 22$ **f** $x = 9$ **g** $m = 15$ **h** $y = 39$ **i** $a = 8$ **j** $m = 15$
k $n = 31$ **l** $a = 8$ **m** $y = 0$ **n** $t = 3$ **o** $a = 4$

PAGE 2 **1** **a** $a = 4$ **b** $x = 6$ **c** $y = 3$ **d** $x = 21$ **e** $y = 30$ **f** $x = -4$ **g** $m = -3$ **h** $x = 3$ **i** $t = -20$ **j** $p = -4$ **k** $y = -20$ **l** $t = 4$ **m** $a = 18$
n $a = 8$ **o** $x = -21$ **2** **a** $x = 30$ **b** $x = -12$ **c** $x = 42$ **d** $a = -60$ **e** $a = -18$ **f** $b = 72$ **g** $m = 36$ **h** $x = 27$ **i** $y = -28$ **j** $a = 6$ **k** $b = 5$
l $x = 4$ **m** $x = 7$ **n** $x = 6$ **o** $x = 7$

PAGE 3 **1** **a** $x = 1$ **b** $x = 8$ **c** $y = 5$ **d** $m = 6$ **e** $x = 23$ **f** $a = 5$ **g** $x = 16$ **h** $x = 2$ **i** $a = 23$ **j** $x = 5$ **k** $x = 5$ **l** $t = 7$ **m** $y = 2$
n $m = 30$ **o** $k = 9$ **2** **a** $x = 4$ **b** $m = 6$ **c** $x = 33$ **d** $x = 50$ **e** $x = 7$ **f** $m = 12$ **g** $m = 5$ **h** $y = 10$ **i** $y = -1$ **j** $x = 3$ **k** $x = 3$ **l** $x = 7$
m $a = 3.1$ **n** $a = 1$ **o** $p = 0.3$

PAGE 4 **1** **a** $x = -21$ **b** $x = 4$ **c** $t = 11$ **d** $m = 5$ **e** $m = 6$ **f** $a = 12$ **g** $y = 5$ **h** $x = 5$ **i** $y = 6$ **j** $x = 8$ **k** $a = 4$ **l** $p = 7$ **m** $m = 10$ **n** $y = 10$
o $m = 3$ **2** **a** $x = 34$ **b** $x = 3$ **c** $x = -\frac{4}{3}$ **d** $y = 17$ **e** $x = 2$ **f** $x = -\frac{14}{9}$ **g** $m = 9$ **h** $x = 4\frac{3}{4}$ **i** $y = 6$ **j** $m = -3$ **k** $x = -12$ **l** $y = 7$

PAGE 5 **1** **a** $x = 2$ **b** $m = \frac{3}{2}$ **c** $m = 5$ **d** $x = 4$ **e** $a = 6\frac{1}{3}$ **f** $n = 12$ **g** $n = 3$ **h** $p = 4$ **i** $x = 3$ **j** $a = 6$ **k** $m = 4$ **l** $x = 2$ **2** **a** $a = -32$
b $x = 23$ **c** $y = 18$ **d** $x = 68$ **e** $x = 4\frac{2}{5}$ **f** $a = -\frac{5}{3}$ **g** $x = -\frac{3}{2}$ **h** $a = 21$ **i** $a = \frac{22}{13}$ **j** $a = 0$ **k** $a = 15$ **l** $a = 14$ **m** $a = -57$ **n** $a = -96$ **o** $a = 23$

PAGE 6 **1** **a** $x = 2$ **b** $a = \frac{3}{4}$ **c** $y = 15$ **d** $a = 12$ **e** $m = 12$ **f** $x = 270$ **g** $a = 9$ **h** $x = 12$ **i** $x = 5$ **j** $x = 12$ **k** $x = 10$ **l** $m = 22$
2 **a** $x = 20$ **b** $y = 7$ **c** $t = 15$ **d** $m = 19$ **e** $a = 8$ **f** $p = 7$ **g** $x = 8$ **h** $x = 6\frac{1}{4}$ **i** $x = 0$ **j** $m = 11$ **k** $x = 6$ **l** $m = 4\frac{4}{5}$ **m** $x = -\frac{10}{3}$ **n** $p = 5$ **o** $a = 8$

PAGE 7 **1** **a** 30 **b** 75 **c** 36 **d** 96 **e** 15 **f** 2.64 **g** 84 **h** 17.1 **i** 46.28 **2** **a** 56 **b** 34 **c** 26 **d** 60 **e** 14 **f** 19.6 **g** 24 **h** 16 **i** 24
3 **a** 5 **b** 15 **c** 8 **d** 11 **e** $8\frac{1}{2}$ **f** –2 **g** –13 **h** 17 **i** –34 **4** **a** 6 **b** 12 **c** 27 **d** 30 **e** 20 **f** 44 **g** 9 **h** 20 **i** 13.5

PAGE 8 **1** **a** 12 **b** 4 **c** 6 **d** 8 **e** 12 **f** 40 **g** 12 **h** 15 **i** 8 **2** **a** 10 **b** 8 **c** 25 **d** 11 **e** 20 **f** 13 **g** 9 **h** 16 **i** 18 **3** **a** 12 **b** 8 **c** 9
d 17 **e** 28 **f** 12 **g** 40 **h** 30.08 **i** 33.8 **4** **a** 3 **b** 8 **c** 32 **d** 0 **e** –1 **f** 3 **g** 5.5 **h** –4 **i** –3

PAGE 9 **1** 16 **2** 10 **3** 14 **4** 18 **5** 2 **6** 12 **7** 18 **8** 36 **9** 5 **10** width = 4 cm, length = 9 cm **11** 12 cm **12** 3 cm **13** 52 **14** $x = 12$ **15** 5

PAGE 10 **1** D **2** C **3** C **4** D **5** C **6** A **7** D **8** A **9** D **10** C **11** A **12** A

PAGE 11 **1** $x = 37$ **2** $x = 1152$ **3** $x = 6$ **4** $p = \frac{1}{2}$ **5** 17 **6** $x = \frac{8}{3}$ **7** $x = 2.1$ **8** $x = 4$ **9** $x = 32$ **10** $x = 3\frac{1}{2}$ **11** $x = 6$ **12** $x = 2\frac{1}{2}$ **13** $x = 14$
14 $x = 4$ **15** $x = 6$