

Name:

Date:

# Solving Equations

## GCSE

Edexcel  
Mathematics  
Grade 3

Mark

Score (%)

|     |
|-----|
| 124 |
|-----|

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## Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

## Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

## Information

- The marks for the questions are shown in brackets

**1** Solve:

(a)  $x + 5 = 7$

$x = \dots\dots\dots$   
(1)

(b)  $x - 3 = 8$

$x = \dots\dots\dots$   
(1)

(c)  $\frac{x}{3} = 15$

$x = \dots\dots\dots$   
(1)

(d)  $3x = 12$

$x = \dots\dots\dots$   
(1)

**(Total for question 1 is 4 marks)**

**2** Solve:

(a)  $y + 6 = 14$

$y = \dots\dots\dots$   
(1)

(b)  $y - 20 = 100$

$y = \dots\dots\dots$   
(1)

(c)  $y - 15.5 = 13.5$

$y = \dots\dots\dots$   
(1)

(d)  $2y - 9 = 21$

$y = \dots\dots\dots$   
(2)

**(Total for question 2 is 5 marks)**

**3** Solve:

(a)  $3z - 2 = 19$

$z = \dots\dots\dots$

(2)

(b)  $z - 18 = 14$

$z = \dots\dots\dots$

(1)

(c)  $2z + 8 = 13$

$z = \dots\dots\dots$

(2)

(d)  $z + 12 = 26$

$z = \dots\dots\dots$

(1)

(Total for question 3 is 6 marks)

**4** Solve:

(a)  $a + 7 = 23$

$a = \dots\dots\dots$

(1)

(b)  $2a - 4 = 15$

$a = \dots\dots\dots$

(2)

(c)  $3a - 2 = 17$

$a = \dots\dots\dots$

(2)

(d)  $2a + 7 = 46$

$a = \dots\dots\dots$

(2)

(Total for question 4 is 7 marks)

**5** Solve:

(a)  $4b - 8 = 12$

$b = \dots\dots\dots$   
(2)

(b)  $3b + 4 = 16$

$b = \dots\dots\dots$   
(2)

(c)  $b - 8 = 42$

$b = \dots\dots\dots$   
(1)

(d)  $6b + 12 = 84$

$b = \dots\dots\dots$   
(2)

(Total for question 5 is 7 marks)

**6** Solve:

(a)  $3c = 24$

$c = \dots\dots\dots$   
(1)

(b)  $\frac{c}{9} = 6$

$c = \dots\dots\dots$   
(1)

(c)  $c + 12 = 4$

$c = \dots\dots\dots$   
(1)

(d)  $2c + 8 = 19$

$c = \dots\dots\dots$   
(2)

(Total for question 6 is 5 marks)

**7** Solve:

(a)  $d + 8 = 36$

$d = \dots\dots\dots$   
(1)

(b)  $3d - 5 = 13$

$d = \dots\dots\dots$   
(2)

(c)  $\frac{d}{5} + 6 = 11$

$d = \dots\dots\dots$   
(2)

(d)  $2d + 19 = 25$

$d = \dots\dots\dots$   
(2)

(Total for question 7 is 7 marks)

**8** Solve:

(a)  $6e - 2 = 82$

$e = \dots\dots\dots$   
(2)

(b)  $3e + 9 = 12$

$e = \dots\dots\dots$   
(2)

(c)  $e - 4 = 14$

$e = \dots\dots\dots$   
(1)

(d)  $\frac{e}{12} + 8 = 10$

$e = \dots\dots\dots$   
(2)

(Total for question 8 is 7 marks)

**9** Solve:

(a)  $\frac{f}{4} = 16$

$f = \dots\dots\dots$   
(1)

(b)  $\frac{f}{4} + 12 = 17$

$f = \dots\dots\dots$   
(2)

(c)  $f - 5 = 7$

$f = \dots\dots\dots$   
(1)

(d)  $5 - f = 18$

$f = \dots\dots\dots$   
(2)

(e)  $2 - f = -3$

$f = \dots\dots\dots$   
(2)

(Total for question 9 is 8 marks)

**10** Solve:

(a)  $2(g + 3) = 9$

$g = \dots\dots\dots$   
(3)

(b)  $5(g + 2) = 55$

$g = \dots\dots\dots$   
(3)

(c)  $g(3 - 1) = 12$

$g = \dots\dots\dots$   
(2)

(d)  $3(2 - g) = 1.5$

$g = \dots\dots\dots$   
(3)

(Total for question 10 is 11 marks)

**11** Solve:

(a)  $4(g - 7) = 8$

$g = \dots\dots\dots$   
(3)

(b)  $6(12 - g) = 30$

$g = \dots\dots\dots$   
(3)

(c)  $\frac{g+3}{2} = 1$

$g = \dots\dots\dots$   
(2)

(d)  $16 - g = 18$

$g = \dots\dots\dots$   
(2)

(Total for question 11 is 10 marks)

**12** Solve:

(a)  $\frac{6x+1}{9} = 25$

$x = \dots\dots\dots$   
(3)

(b)  $21 - 2x = 10$

$x = \dots\dots\dots$   
(3)

(c)  $19 - 3x = 1$

$x = \dots\dots\dots$   
(3)

(d)  $41 + x = 37$

$x = \dots\dots\dots$   
(2)

(Total for question 12 is 11 marks)

**13** Solve:

(a)  $24s + 7 = 199$

$s = \dots\dots\dots$   
(3)

(b)  $13 - s = 2$

$s = \dots\dots\dots$   
(2)

(c)  $\frac{5+s}{4} = 11$

$s = \dots\dots\dots$   
(1)

(d)  $5 + 2s = 27$

$s = \dots\dots\dots$   
(3)

**(Total for question 13 is 9 marks)**

**14** Solve:

(a)  $9q + 2q = 33$

$q = \dots\dots\dots$   
(2)

(b)  $q - \frac{5}{4} = \frac{3}{4}$

$q = \dots\dots\dots$   
(1)

(c)  $\frac{q-2}{2} = 22$

$q = \dots\dots\dots$   
(2)

(d)  $3q + 1 = 13$

$q = \dots\dots\dots$   
(2)

**(Total for question 14 is 7 marks)**



**15** Solve:

(a)  $2r = r + 7$

$r = \dots\dots\dots$   
(1)

(b)  $2r - 5 = r + 4$

$r = \dots\dots\dots$   
(2)

(c)  $\frac{r}{3} = r - 3$

$r = \dots\dots\dots$   
(3)

(d)  $2r + 2 = r - 5$

$r = \dots\dots\dots$   
(2)

(Total for question 15 is 4 marks)

**16** Solve:

(a)  $s + 3 = 3s - 3$

$s = \dots\dots\dots$   
(2)

(b)  $s - 25 = -6s$

$s = \dots\dots\dots$   
(2)

(c)  $\frac{s}{3} = 15 - \frac{2s}{3}$

$s = \dots\dots\dots$   
(3)

(d)  $3s = 12s - 45$

$s = \dots\dots\dots$   
(3)

(Total for question 16 is 4 marks)

**17** Solve:

(a)  $2t = t + 24$

$t = \dots\dots\dots$   
(1)

(b)  $3t - 1 = 5t - 9$

$t = \dots\dots\dots$   
(2)

(c)  $\frac{t}{5} = t - 3$

$t = \dots\dots\dots$   
(3)

(d)  $4t + 1 = t - 2$

$t = \dots\dots\dots$   
(2)

(Total for question 17 is 4 marks)

**18** Solve:

(a)  $u + 21 = 3u - 2$

$u = \dots\dots\dots$   
(2)

(b)  $u(30 - 25) = -6u + 11$

$u = \dots\dots\dots$   
(3)

(c)  $\frac{3u}{5} = 9 - \frac{2u}{5}$

$u = \dots\dots\dots$   
(3)

(d)  $3(u - 2) = 12u - 4$

$u = \dots\dots\dots$   
(3)

(Total for question 18 is 4 marks)

**19** Solve:

(a)  $5v = v + 40$

$v = \dots\dots\dots$   
(2)

(b)  $2v - 2 = v + 4$

$v = \dots\dots\dots$   
(2)

(c)  $\frac{2(v-1)}{3} = v - 3$

$v = \dots\dots\dots$   
(3)

(d)  $5v = 10v - 5$

$v = \dots\dots\dots$   
(2)

**(Total for question 19 is 4 marks)**

**20** Solve:

(a)  $w + 1 = 3w - 3$

$w = \dots\dots\dots$   
(2)

(b)  $4w - 25 = -w$

$w = \dots\dots\dots$   
(2)

(c)  $\frac{w}{2} = 15 - \frac{3w}{2}$

$w = \dots\dots\dots$   
(3)

(d)  $3w = 15w - 72$

$w = \dots\dots\dots$   
(2)

**(Total for question 20 is 4 marks)**