2.10 Solving One and Two Step Equations: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Solve the equation (2/5)b + 2 = 7. Give your answer as a fraction or mixed number where appropriate.

(3)

2 Solve the equation 3/4 x - 1 = 5. Give your answer as a fraction or integer.

(2)

3 Solve the equation 6 + 1.5x = 12. Show your working and give your answer as a decimal.

(3)

4 Solve the two-step equation and check by substitution: 2(3 + n) = 14.

(2)

© Revision Library | revisionlibrary.co.uk

5 A rectangle has length (x + 5) cm and width 2 cm. Its area is 16 cm². Form an equation and find x.

Diagram NOT accurately drawn



16 cm²

(3)

---

6 The sides of a triangle, in centimetres, are (x + 4), 5x and (6x - 2). The perimeter is 122 cm.

(a) Form and simplify an equation in x.

(b) Solve it to find x.

(4)

---

7 Solve b + 2 = -6

(1)

© Revision Library | revisionlibrary.co.uk

8 The cost, C pounds, of hiring a ladder for h days is given by C = 45 + 9h.
Work out the cost of hiring the ladder for 5 days.

(2)

---

9 A plumber charges a call-out fee of £20 plus £15 per hour worked. The total charge for a job was £95. Form an equation for the number of hours, h, worked and solve it.

(3)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.10 Solving One and Two Step Equations: 30-minute Pack

Question 1

subtract 2 from both sides to give (2/5)b = 5	M1
multiply both sides by 5/2 to give b = 5 x 5/2 = 25/2	M1
b = 25/2 or 12 1/2 cao	A1

Answer: **25/2**

Question 2

add 1 to both sides to give 3/4 x = 6	M1
x = 6 x 4/3 = 8 cao	A1

Answer: **8**

Question 3

subtract 6 from both sides to get 1.5x = 6	M1
divide both sides by 1.5 to give x = 4	M1
x = 4 cao	A1

Answer: **4**

Question 4

expand or divide by 2 first: 2(3+n)=14 gives 3+n=7	M1
n = 4 cao	A1

Answer: **4**

Question 5

2(x + 5) = 16	M1
correct method to solve	M1
x = 3 cao	A1

Answer: **x = 3**

Question 6

adds the three sides	M1
12x + 2 = 122	A1
correct method to solve	M1
x = 10 cao	A1

Answer: **(a) 12x + 2 = 122, (b) x = 10**

Question 7

b = -8 cao	B1

Answer: **b = -8**

Question 8

substitutes h = 5: 45 + 9 x 5	M1
£90 cao	A1

Answer: **£90**

Question 9

forms 15h + 20 = 95	M1
correct rearrangement, e.g. 15h = 75	M1
h = 5 cao	A1

Answer: **h = 5**

© Revision Library | revisionlibrary.co.uk