2.7 Writing an Expression: 1-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

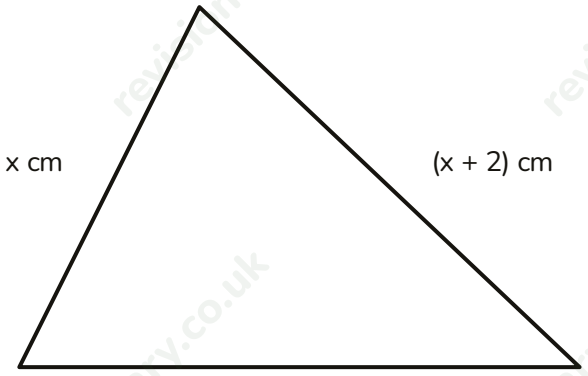
Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The diagram shows a triangle with sides x cm, (x + 2) cm and 2x cm.

Diagram NOT accurately drawn



Not to scale

(a) Write an expression, in terms of x, for the perimeter of the triangle. **(1)**

(b) Simplify your expression. **(1)**

(Total for Question 1 is 2 marks)

© Revision Library | revisionlibrary.co.uk

2 Ben has b marbles. Amy has 4 more marbles than Ben.

(a) Write an expression, in terms of b, for the number of marbles Amy has. **(1)**

(b) Write an expression, in terms of b, for the total number of marbles Ben and Amy have together. Give your answer in its simplest form. **(2)**

(Total for Question 2 is 3 marks)

---

3 A piggy bank contains n 20p coins and m 50p coins. Write an expression, in pence, for the total value of the coins in the piggy bank.

(Total for Question 3 is 2 marks)

---

4 Write an expression, in terms of w, for the total number of days in w whole weeks and 3 extra days.

(Total for Question 4 is 2 marks)

---

5 Tom is x years old. Ann is 3 years older than Tom. Jo is 3 times as old as Tom. Write an expression for the sum of their three ages, in its simplest form.

(Total for Question 5 is 3 marks)

© Revision Library | revisionlibrary.co.uk

6 A theatre charges £9 for an adult ticket and £4 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 6 is 2 marks)

---

7 Asha has p stickers. Ben has 5 more stickers than Asha. Cara has 4 times as many stickers as Asha. Write an expression, in its simplest form, for the total number of stickers the three children have.

(Total for Question 7 is 3 marks)

---

8 A theatre charges £8 for an adult ticket and £7 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 8 is 2 marks)

---

9 Tom is t years old. Ann is 3 years older than Tom. Jo is 3 times as old as Tom. Write an expression for the sum of their three ages, in its simplest form.

(Total for Question 9 is 3 marks)

---

10 A taxi company charges £2 plus £2 for each mile travelled. (a) Write an expression for the cost, in pounds, of a journey of m miles. (b) Work out the cost of a journey of 5 miles.

(Total for Question 10 is 3 marks)

© Revision Library | revisionlibrary.co.uk

11 Asha has n stickers. Ben has 3 more stickers than Asha. Cara has 3 times as many stickers as Asha. Write an expression, in its simplest form, for the total number of stickers the three children have.

(Total for Question 11 is 3 marks)

12 A theatre charges £7 for an adult ticket and £8 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 12 is 2 marks)

13 A taxi company charges £8 plus £4 for each mile travelled. (a) Write an expression for the cost, in pounds, of a journey of m miles. (b) Work out the cost of a journey of 6 miles.

(Total for Question 13 is 3 marks)

14 A theatre charges £9 for an adult ticket and £5 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 14 is 2 marks)

© Revision Library | revisionlibrary.co.uk

15 Asha has k stickers. Ben has 4 more stickers than Asha. Cara has 4 times as many stickers as Asha. Write an expression, in its simplest form, for the total number of stickers the three children have.

.....

.....

.....

(Total for Question 15 is 3 marks)

---

16 Write down an expression for each of the following.

(a) t is multiplied by 4, then 5 is subtracted from the result. **(1)**

.....

(b) w is divided by 3, then 2 is added to the result. **(1)**

.....

(Total for Question 16 is 2 marks)

© Revision Library | revisionlibrary.co.uk

17 Jamal thinks of a number, x. He multiplies it by 3, then adds 6. He then doubles the whole result. Write an expression, in terms of x, for Jamal's final answer. Give your answer in its simplest form.

.....

.....

(Total for Question 17 is 2 marks)

---

18 A gym offers two membership plans. Plan A: a joining fee of £20 plus £15 per month. Plan B: no joining fee, but £18 per month plus a one-off £4 admin charge. Let n be the number of months.

(a) Write down an expression, in terms of n, for the total cost of Plan A. **(1)**

.....

(b) Write down an expression, in terms of n, for the total cost of Plan B. **(1)**

.....

(c) Write down an expression, in terms of n, for how much more expensive Plan A is than Plan B. Simplify your answer fully. **(2)**

.....

(Total for Question 18 is 4 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.7 Writing an Expression: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(a) x + (x + 2) + 2x oe (unsimplified) **B1**

(a) Answer: x + (x + 2) + 2x

(b) 4x + 2 oe **B1**

(b) Answer: 4x + 2

Question 2

(a) b + 4 oe **B1**

(a) Answer: b + 4

(b) b + (b + 4) oe (unsimplified) **M1**

(b) 2b + 4 oe **A1**

(b) Answer: 2b + 4

Question 3

20n or 50m identified (oe) **M1**

20n + 50m oe **A1**

Answer: 20n + 50m

Question 4

7w identified (oe) **M1**

7w + 3 oe **A1**

Answer: 7w + 3

Question 5

x + 3 and 3x seen **B1**

adds the three **M1**

5x + 3 cao **A1**

Answer: 5x + 3

Question 6

9a or 4c seen **M1**

9a + 4c cao **A1**

Answer: 9a + 4c

Question 7

p + 5 or 4p seen **B1**

adds the three expressions **M1**

6p + 5 cao **A1**

Answer: 6p + 5

Question 8

8a or 7c seen **M1**

8a + 7c cao **A1**

Answer: 8a + 7c

Question 9

t + 3 and 3t seen **B1**

adds the three **M1**

5t + 3 cao **A1**

Answer: 5t + 3

Question 10

2m or 2 seen **M1**

2 + 2m oe **A1**

£12 cao **B1**

Answer: (a) 2m + 2 (b) £12

Question 11

n + 3 or 3n seen **B1**

adds the three expressions **M1**

5n + 3 cao **A1**

Answer: 5n + 3

Question 12

7a or 8c seen **M1**

7a + 8c cao **A1**

Answer: 7a + 8c

Question 13

4m or 8 seen **M1**

8 + 4m oe **A1**

£32 cao **B1**

Answer: (a) 4m + 8 (b) £32

Question 14

9a or 5c seen **M1**

9a + 5c cao **A1**

Answer: 9a + 5c

Question 15

k + 4 or 4k seen **B1**

adds the three expressions **M1**

6k + 4 cao **A1**

Answer: 6k + 4

Question 16

(a) 4t - 5 oe **B1**

(a) Answer: 4t - 5

(b) w/3 + 2 oe **B1**

(b) Answer: w/3 + 2

Question 17

2(3x + 6) oe (unsimplified) **M1**

6x + 12 oe **A1**

Answer: 6x + 12

Question 18

(a) 20 + 15n cao **B1**

(a) Answer: 20 + 15n

(b) 18n + 4 cao (oe 4 + 18n) **B1**

(b) Answer: 18n + 4

(c) form (20 + 15n) - (18n + 4) or equivalent **M1**

(c) 16 - 3n cao (accept -3n + 16) **A1**

(c) Answer: 16 - 3n

© Revision Library | revisionlibrary.co.uk