2.7 Writing an Expression: 2-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 120 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A taxi company charges £2 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 9 miles.

(Total for Question 1 is 3 marks)

2 Tom is n years old. Ann is 6 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 2 is 3 marks)

3 A theatre charges £10 for an adult ticket and £6 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 3 is 2 marks)

© Revision Library | revisionlibrary.co.uk

4 Asha has k stickers. Ben has 9 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 4 is 3 marks)

5 A theatre charges £9 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 5 is 2 marks)

6 Tom is t years old. Ann is 5 years older than Tom. Jo is 2 times as old as Tom. Write an expression for the sum of their three ages, in its simplest form.

(Total for Question 6 is 3 marks)

7 A theatre charges £11 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 7 is 2 marks)

© Revision Library | revisionlibrary.co.uk

8 Asha has n stickers. Ben has 3 more stickers than Asha. Cara has 2 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 8 is 3 marks)

9 Tom is t years old. Ann is 5 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 theatre charges £9 for an adult ticket and £6 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 10 is 2 marks)

11 Asha has k stickers. Ben has 4 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)

© Revision Library | revisionlibrary.co.uk

12 A theatre charges £8 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 12 is 2 marks)

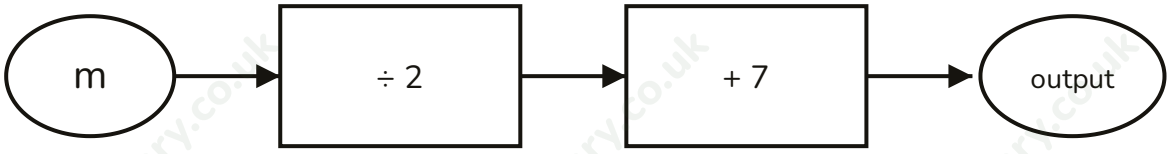
13 A theatre charges £13 for an adult ticket and £3 for a child ticket. Write an expression for the total cost, in pounds, of a adult tickets and c child tickets.

(Total for Question 13 is 2 marks)

14 Tom is x years old. Ann is 6 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 14 is 3 marks)

15 A function machine takes a number m. It divides m by 2, then adds 7, to give the output.



(a) Write an expression, in terms of m, for the output of the function machine. **(1)**

(b) Work out the output when m = 10. **(1)**

(Total for Question 15 is 2 marks)

© Revision Library | revisionlibrary.co.uk

16 Tom is x years old. Ann is 5 years older than Tom. Jo is 2 times as old as Tom. Write an expression for the sum of their three ages, in its simplest form.

(Total for Question 16 is 3 marks)

17 Apples cost 45p each.

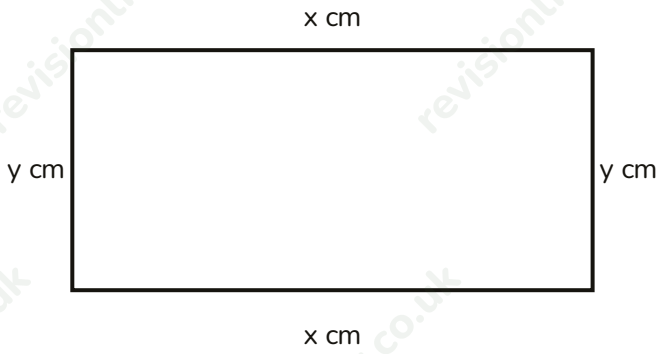
(a) Write an expression, in terms of n, for the cost, in pence, of n apples. **(1)**

(b) Write an expression, in terms of n, for the cost, in pounds, of n apples. **(1)**

(Total for Question 17 is 2 marks)

18 The diagram shows a rectangle with length x cm and width y cm.

Diagram NOT accurately drawn



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

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

(Total for Question 18 is 2 marks)

© Revision Library | revisionlibrary.co.uk

19 Priya is p years old.

(a) Write an expression, in terms of p, for Priya's age in 6 years' time. **(1)**

(b) Priya's sister is 3 years younger than Priya. Write an expression, in terms of p, for her sister's age now. **(1)**

(Total for Question 19 is 2 marks)

20 Write an expression, in terms of h and m, for the total number of minutes in h hours and m minutes.

(Total for Question 20 is 2 marks)

21 A number is 6 more than double m. Write down an expression for the number, in terms of m.

(Total for Question 21 is 1 mark)

22 A stationery shop sells pens for 60p each and rulers for 25p each. Amara buys x pens and y rulers. Write an expression, in pence, for the total cost of Amara's shopping.

(Total for Question 22 is 2 marks)

23 At a school fair, the shooting-gallery game costs £2 per go and the tombola costs £1 per go. Efe pays for g games of shooting gallery and t games of tombola, then also buys a £3 raffle ticket. Write an expression, in terms of g and t, for the total amount, in pounds, that Efe spends.

(Total for Question 23 is 2 marks)

© Revision Library | revisionlibrary.co.uk

24 A plumber charges a call-out fee of £30, plus £25 for each hour worked.

(a) Write an expression, in terms of h, for the total charge, in pounds, for a job that takes h hours. **(1)**

(b) Work out the total charge for a job that takes 3 hours. **(1)**

(Total for Question 24 is 2 marks)

25 A theatre has r rows of seats. Each row has s seats.

(a) Write an expression, in terms of r and s, for the total number of seats in the theatre. **(1)**

(b) There are also 12 fold-down seats at the back of the theatre. Write an expression, in terms of r and s, for the total number of seats, including the fold-down seats. **(1)**

(Total for Question 25 is 2 marks)

26 Write an expression for twice a number t then add 9.

(Total for Question 26 is 1 mark)

27 Write an expression for three times a number k, divided by 5.

(Total for Question 27 is 1 mark)

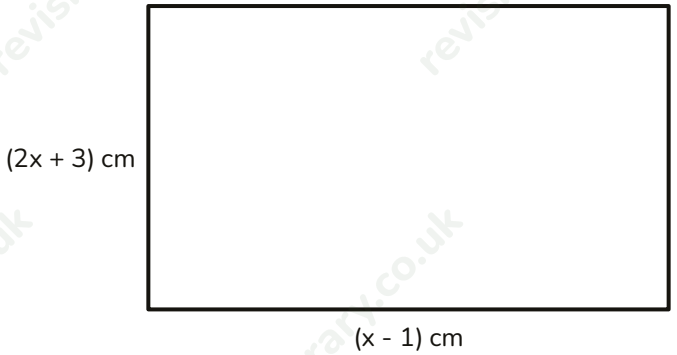
28 Write an expression for y squared plus 4.

(Total for Question 28 is 1 mark)

© Revision Library | revisionlibrary.co.uk

29 A rectangle has length (2x + 3) cm and width (x - 1) cm. Write an expression for the perimeter of the rectangle. Simplify your answer.

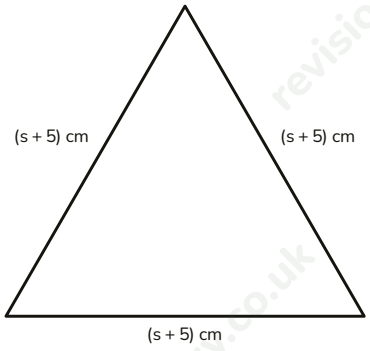
Diagram NOT accurately drawn



(Total for Question 29 is 2 marks)

30 An equilateral triangle has side length (s + 5) cm. Write an expression for its perimeter and simplify.

Diagram NOT accurately drawn



(Total for Question 30 is 2 marks)

31 Write down an expression for a number j divided by 4, then increased by 5.

(Total for Question 31 is 1 mark)

© Revision Library | revisionlibrary.co.uk

32 A number t is trebled, then 6 is subtracted. Write down an expression for this.

(Total for Question 32 is 1 mark)

---

33 A rectangle has length (2y + 1) cm and width 4 cm. Write down an expression for the area of the rectangle, in terms of y. Simplify your answer.

Diagram NOT accurately drawn



(Total for Question 33 is 2 marks)

---

34 At a cinema, an adult ticket costs £6 and a child ticket costs £4. A group buys a adult tickets and c child tickets. Write an expression, in terms of a and c, for the total cost, in pounds, of the tickets.

(Total for Question 34 is 2 marks)

© Revision Library | revisionlibrary.co.uk

35 A meal deal normally costs £c. Bilal has a voucher that reduces the price of one meal deal by £3.

(a) Write an expression, in terms of c, for the price Bilal pays for one meal deal when he uses the voucher. **(1)**

(b) Bilal buys 4 meal deals, using the voucher on each one. Write an expression, in terms of c, for the total amount Bilal pays. Give your answer in its simplest form. **(2)**

(Total for Question 35 is 3 marks)

36 In a cafe, square tables are pushed together in a row to seat customers. One table on its own seats 4 customers. Two tables pushed together in a row seat 6 customers. Three tables pushed together in a row seat 8 customers.

(a) Work out the number of customers that can be seated at 4 tables pushed together in a row. **(1)**

(b) Write an expression, in terms of t, for the number of customers that can be seated at t tables pushed together in a row. **(2)**

(Total for Question 36 is 3 marks)

© Revision Library | revisionlibrary.co.uk

37 A car park has p rows of spaces, with s spaces in each row, plus 6 extra spaces reserved for disabled parking.

(a) Write an expression, in terms of p and s, for the total number of parking spaces normally available, including the reserved spaces. **(1)**

(b) On one day, 15 of the parking spaces are closed for repairs. Write an expression, in terms of p and s, for the number of spaces available on that day. Give your answer in its simplest form. **(2)**

(Total for Question 37 is 3 marks)

---

38 Kwame is k years old. His cousin Zanele is 5 years older than Kwame.

(a) Write an expression, in terms of k, for Zanele's age now. **(1)**

(b) In 2 years' time, write an expression, in terms of k, for the sum of Kwame's and Zanele's ages. Give your answer in its simplest form. **(2)**

(Total for Question 38 is 3 marks)

---

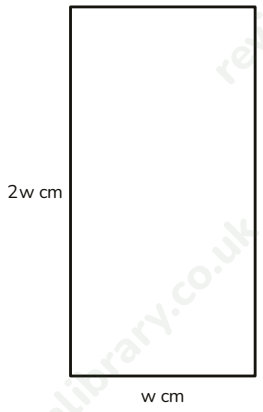
39 The price of a jumper is p pounds. During a sale the price is reduced by 25%. Write an expression for the sale price in terms of p. Give the answer as a fraction in simplest form.

(Total for Question 39 is 1 mark)

© Revision Library | revisionlibrary.co.uk

40 A rectangle has width w cm. Its length is twice its width. Write an expression for the perimeter of the rectangle in terms of w and simplify.

Diagram NOT accurately drawn



(Total for Question 40 is 2 marks)

41 A delivery service charges a fixed fee of £1.20 plus £0.35 for each item ordered. Write an expression for the total cost if m items are ordered.

(Total for Question 41 is 2 marks)

42 A journey normally takes m minutes. Roadworks make the journey 20% longer. Write down an expression, in terms of m, for the new journey time. Give your answer in its simplest form.

(Total for Question 42 is 1 mark)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.7 Writing an Expression: 2-hour Pack

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

Question 1

4m or 2 seen	**M1**
2 + 4m oe	**A1**
£38 cao	**B1**

Answer: (a) 4m + 2 (b) £38

Question 2

n + 6 and 3n seen	**B1**
adds the three	**M1**
5n + 6 cao	**A1**

Answer: 5n + 6

Question 3

10a or 6c seen	**M1**
10a + 6c cao	**A1**

Answer: 10a + 6c

Question 4

k + 9 or 4k seen	**B1**
adds the three expressions	**M1**
6k + 9 cao	**A1**

Answer: 6k + 9

Question 5

9a or 7c seen	**M1**
9a + 7c cao	**A1**

Answer: 9a + 7c

Question 6

t + 5 and 2t seen	**B1**
adds the three	**M1**
4t + 5 cao	**A1**

Answer: 4t + 5

Question 7

11a or 8c seen	**M1**
11a + 8c cao	**A1**

Answer: 11a + 8c

Question 8

n + 3 or 2n seen	**B1**
adds the three expressions	**M1**
4n + 3 cao	**A1**

Answer: 4n + 3

Question 9

t + 5 and 3t seen	**B1**
adds the three	**M1**
5t + 5 cao	**A1**

Answer: 5t + 5

Question 10

9a or 6c seen	**M1**
9a + 6c cao	**A1**

Answer: 9a + 6c

Question 11

k + 4 or 3k seen	**B1**
adds the three expressions	**M1**
5k + 4 cao	**A1**

Answer: 5k + 4

Question 12

8a or 5c seen	**M1**
8a + 5c cao	**A1**

Answer: 8a + 5c

Question 13

13a or 3c seen	**M1**
13a + 3c cao	**A1**

Answer: 13a + 3c

Question 14

x + 6 and 3x seen	**B1**
adds the three	**M1**
5x + 6 cao	**A1**

Answer: 5x + 6

Question 15

(a) m/2 + 7 oe	**B1**
(a) Answer: m/2 + 7	
(b) 12 (ft their expression)	**B1**
(b) Answer: 12	

Question 16

x + 5 and 2x seen	**B1**
adds the three	**M1**
4x + 5 cao	**A1**

Answer: 4x + 5

Question 17

(a) 45n oe	**B1**
(a) Answer: 45n	
(b) 0.45n oe (accept 45n/100 or 9n/20)	**B1**
(b) Answer: 0.45n	

Question 18

(a) x + x + y + y oe (unsimplified)	**B1**
(a) Answer: x + x + y + y	
(b) 2x + 2y oe 2(x + y)	**B1**
(b) Answer: 2x + 2y	

© Revision Library | revisionlibrary.co.uk

Question 19

(a) p + 6 oe **B1**

(a) Answer: p + 6

(b) p - 3 oe **B1**

(b) Answer: p - 3

Question 20

60h identified (oe) **M1**

60h + m oe **A1**

Answer: 60h + m

Question 21

2m + 6 oe (not 2(m + 6)) **B1**

Answer: 2m + 6

Question 22

60x or 25y identified (oe) **M1**

60x + 25y oe **A1**

Answer: 60x + 25y

Question 23

2g or t identified (oe) **M1**

2g + t + 3 oe **A1**

Answer: 2g + t + 3

Question 24

(a) 25h + 30 oe **B1**

(a) Answer: 25h + 30

(b) 105 (ft their expression) **B1**

(b) Answer: 105

Question 25

(a) rs oe **B1**

(a) Answer: rs

(b) rs + 12 oe **B1**

(b) Answer: rs + 12

Question 26

2t + 9 cao **B1**

Answer: 2t + 9

Question 27

3k/5 cao **B1**

Answer: 3k/5

Question 28

y^2 + 4 cao **B1**

Answer: y^2 + 4

Question 29

substitute into perimeter formula P = 2(length + width), e.g. 2[(2x + 3) + (x - 1)] or equivalent **M1**

6x + 4 cao **A1**

Answer: 6x + 4

Question 30

recognise perimeter = 3 times side, 3(s + 5) or equivalent **M1**

3s + 15 cao **A1**

Answer: 3s + 15

Question 31

j/4 + 5 cao **B1**

Answer: j/4 + 5

Question 32

3t - 6 cao **B1**

Answer: 3t - 6

Question 33

substitute into area = length x width, e.g. 4(2y + 1) or equivalent **M1**

8y + 4 cao **A1**

Answer: 8y + 4

Question 34

6a or 4c identified (oe) **M1**

6a + 4c oe **A1**

Answer: 6a + 4c

Question 35

(a) c - 3 oe **B1**

(a) Answer: c - 3

(b) 4(c - 3) oe (unsimplified) **M1**

(b) 4c - 12 oe **A1**

(b) Answer: 4c - 12

Question 36

(a) 10 **B1**

(a) Answer: 10

(b) 2t identified (oe common difference used) **M1**

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

(b) Answer: 2t + 2

Question 37

(a) ps + 6 oe **B1**

(a) Answer: ps + 6

(b) ps + 6 - 15 oe (unsimplified) **M1**

(b) ps - 9 oe **A1**

(b) Answer: ps - 9

Question 38

(a) k + 5 oe **B1**

(a) Answer: k + 5

(b) (k + 2) + (k + 5 + 2) oe (unsimplified) **M1**

(b) 2k + 9 oe **A1**

(b) Answer: 2k + 9

Question 39

3/4 p or (3/4)p cao **B1**

Answer: 3/4 p

Question 40

substitute length = 2w into P = 2(length + width), e.g. 2(2w + w) **M1**

6w cao **A1**

Answer: 6w

© Revision Library | revisionlibrary.co.uk

Question 41

identify fixed fee + variable cost, 1.20 + 0.35m or equivalent **M1**

1.20 + 0.35m cao **A1**

Answer: 1.20 + 0.35m

Question 42

1.2m cao (oe 6m/5) **B1**

Answer: 1.2m

© Revision Library | revisionlibrary.co.uk