2.8 Expanding Single Brackets: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Expand -6(3a - 1).

(2)

2 Expand 2(3n + 1).

(2)

3 Expand x(x + 1).

(2)

4 Expand -2(x - 5).

(1)

5 Show that 6(t + 3) + 2(t + 6) = 8t + 30.

(3)

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6 Expand 3(x - 3).

(2)

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7 Expand -9(x - 7).

(2)

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8 Work out 2(x + 3) + x.

(2)

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9 Expand the brackets and solve the equation $3(x + 4) = 2x + 19$.

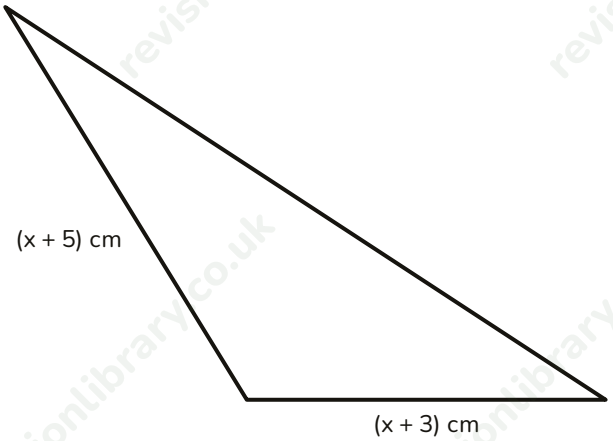
(3)

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10 A triangle has perimeter $5(x + 2)$ cm. Two of its sides are $(x + 3)$ cm and $(x + 5)$ cm.

Diagram NOT accurately drawn

Perimeter = $5(x + 2)$ cm



(a) Expand $5(x + 2)$ to write the perimeter without brackets. **(1)**

(b) Find and simplify an expression, in terms of x, for the length of the third side. **(2)**

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(c) Given that $x = 4$, find the length of the third side. **(2)**

.....

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Mark scheme · 2.8 Expanding Single Brackets: 30-minute Pack

Question 1

one term correctly expanded	M1
-18a + 6 cao	A1

Answer: **-18a + 6**

Question 2

one term correctly expanded	M1
6n + 2 cao	A1

Answer: **6n + 2**

Question 3

one term correctly expanded	M1
$x^2 + x$ cao	A1

Answer: **$x^2 + x$**

Question 4

-2x + 10 cao	B1

Answer: **-2x + 10**

Question 5

6(t + 3) = 6t + 18	M1
2(t + 6) = 2t + 12	M1
collects like terms to give 8t + 30	A1

Answer: **8t + 30 (shown)**

Question 6

one term correctly expanded	M1
3x - 9 cao	A1

Answer: **3x - 9**

Question 7

one term correctly expanded	M1
-9x + 63 cao	A1

Answer: **-9x + 63**

Question 8

expand 2(x+3) to 2x + 6 or equivalent method	M1
3x + 6 cao	A1

Answer: **3x + 6**

Question 9

expand 3(x+4) to 3x + 12	M1
collect terms correctly, e.g. 3x + 12 = 2x + 19 leading to x = 19 - 12	M1
x = 7 cao	A1

Answer: **7**

Question 10

(a) 5x + 10 cao	B1

(a) Answer: **5x + 10**

(b) subtract the two given sides from the perimeter, e.g. (5x+10) - (x+3) - (x+5)	M1
(b) 3x + 2 cao	A1

(b) Answer: **3x + 2**

(c) substitute x = 4 into 3x + 2	M1
(c) 14 cm cao	A1

(c) Answer: **14 cm**

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