2.8 Expanding Single Brackets: Test Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Expand 3(x + 4).

(1)

2 Solve -3(x - 2) + 4 = 2x.

(2)

3 Work out 4(x + 5) - 2(x + 3) + 3.

(3)

4 Show that 5(b + 4) + 2(b + 2) = 7b + 24.

(3)

5 Expand -2(4t + 9).

(2)

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6 Expand 8x(4x - 6).

(2)

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7 Expand and simplify 6(a + 6) + 4(a - 8).

(3)

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8 Expand a(a - 2).

(2)

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9 Expand and simplify 2(a + 7) + 4(a - 7).

(3)

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10 Show that 5(t + 7) + 2(t + 7) = 7t + 49.

(3)

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11 Expand and simplify 4(a + 5) + 6(a - 4).

(3)

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12 Expand 6t(5t - 8).

(2)

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13 Show that 4(b + 4) + 2(b + 5) = 6b + 26.

(3)

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14 Show that 6(b + 1) + 4(b + 3) = 10b + 18.

(3)

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15 Show that 6(x + 1) + 4(x + 5) = 10x + 26.

(3)

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16 Expand 5(x + 2).

(1)

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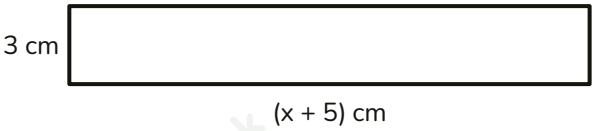
17 Expand and simplify 4(x + 6) - 3(x - 2).

(2)

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18 A rectangle has length (x + 5) cm and width 3 cm. The perimeter of the rectangle is 46 cm. Form and solve an equation to find x.

Diagram NOT accurately drawn



(3)

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19 Expand -3(4x + 5).

(1)

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Mark scheme · 2.8 Expanding Single Brackets: Test Pack

Question 1

3x + 12 cao	B1

Answer: **3x + 12**

Question 2

expand to -3x + 6 + 4 = 2x or -3x + 10 = 2x and collect terms	M1
x = 2 cao	A1

Answer: **2**

Question 3

expand 4(x+5) to 4x+20 and -2(x+3) to -2x -6	M1
collect like terms to form 2x + 17 or equivalent steps	M1
2x + 17 cao	A1

Answer: **2x + 17**

Question 4

5(b + 4) = 5b + 20	M1
2(b + 2) = 2b + 4	M1
collects like terms to give 7b + 24	A1

Answer: **7b + 24 (shown)**

Question 5

one term correctly expanded	M1
-8t - 18 cao	A1

Answer: **-8t - 18**

Question 6

one term correctly expanded	M1
$32x^2$ - 48x cao	A1

Answer: **$32x^2$ - 48x**

Question 7

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
10a + 4 cao	A1

Answer: **10a + 4**

Question 8

one term correctly expanded	M1
a^2 - 2a cao	A1

Answer: **a^2 - 2a**

Question 9

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
6a - 14 cao	A1

Answer: **6a - 14**

Question 10

5(t + 7) = 5t + 35	M1
2(t + 7) = 2t + 14	M1
collects like terms to give 7t + 49	A1

Answer: **7t + 49 (shown)**

Question 11

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
10a - 4 cao	A1

Answer: **10a - 4**

Question 12

one term correctly expanded	M1
$30t^2$ - 48t cao	A1

Answer: **$30t^2$ - 48t**

Question 13

4(b + 4) = 4b + 16	M1
2(b + 5) = 2b + 10	M1
collects like terms to give 6b + 26	A1

Answer: **6b + 26 (shown)**

Question 14

6(b + 1) = 6b + 6	M1
4(b + 3) = 4b + 12	M1
collects like terms to give 10b + 18	A1

Answer: **10b + 18 (shown)**

Question 15

6(x + 1) = 6x + 6	M1
4(x + 5) = 4x + 20	M1
collects like terms to give 10x + 26	A1

Answer: **10x + 26 (shown)**

Question 16

5x + 10 cao	B1

Answer: **5x + 10**

Question 17

expand both brackets: 4x + 24 and -3x + 6 or equivalent	M1
x + 30 cao	A1

Answer: **x + 30**

Question 18

form expression for perimeter, e.g. 2(x+5) + 2(3) or 2x + 16	M1
set expression equal to 46 and rearrange, e.g. 2x = 30	M1
x = 15 cao	A1

Answer: **15**

Question 19

-12x - 15 cao	B1

Answer: **-12x - 15**

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