2.8 Expanding Single Brackets: 2-hour Pack

Calculators not allowed · about 120 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Show that 2(b + 7) + 5(b + 7) = 7b + 49.

(3)

2 Expand 9n(4n - 8).

(2)

3 Expand and simplify 4(b + 6) - 2(b - 8).

(3)

4 Expand and simplify 5(n + 1) - 4(n - 2).

(3)

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5 Expand and simplify 3(b + 1) + 4(b - 6).

(3)

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6 Expand and simplify 6(b + 6) + 6(b - 1).

(3)

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7 Expand 9n(n - 6).

(2)

---

8 Show that 4(a + 6) + 6(a + 4) = 10a + 48.

(3)

---

9 Expand b(b + 7).

(2)

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10 Expand and simplify 6(x + 7) + 6(x - 2).

(3)

---

11 Show that 2(a + 5) + 4(a + 3) = 6a + 22.

(3)

---

12 Show that 3(t + 6) + 2(t + 3) = 5t + 24.

(3)

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13 Work out 3(a + 2) + 2(a - 5).

(2)

---

14 Expand x(3x - 5).

(2)

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15 Expand and simplify 6(n + 7) - 2(n - 3).

(3)

---

16 Show that 6(n + 6) + 4(n + 3) = 10n + 48.

(3)

---

17 Expand and simplify 2(a + 8) + 6(a - 2).

(3)

---

18 Show that 6(t + 5) + 6(t + 7) = 12t + 72.

(3)

---

19 Show that 3(t + 3) + 6(t + 6) = 9t + 45.

(3)

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20 Expand and simplify 2(n + 2) - 3(n - 1).

(3)

---

21 Expand 5n(3n - 4).

(2)

---

22 Work out 3(x + 4) - 2(x - 1).

(2)

---

23 Show that 6(t + 2) + 3(t + 7) = 9t + 33.

(3)

---

24 Expand and simplify 4(x + 7) - 6(x - 4).

(3)

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

(2)

---

26 Work out (x + 2) + 3(x - 1) + 2(2x + 3).

(3)

---

27 Expand and simplify 2(3x + 4) - 5.

(2)

---

28 Expand and simplify -3(x + 2) + 10.

(2)

---

29 Expand and simplify 5(a + 3) + 2(a - 1).

(2)

---

30 Expand and simplify 5(2x - 3) - 3(x + 4).

(3)

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31 A gardener buys tomato seed packs costing (2x + 3) pounds each and pepper seed packs costing (x - 1) pounds each. He buys 3 tomato packs and 2 pepper packs.

(a) Write and simplify an expression, in terms of x, for the total cost in pounds. **(2)**

.....

(b) Given that x = 5, work out the total cost in pounds. **(2)**

.....

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32 Expand 3(x - 4).

(1)

---

33 Expand -4(x + 3).

(1)

---

34 Expand -2(x - 7).

(1)

---

35 Expand 6(2x + 1).

(1)

---

36 Expand 7(3x - 2).

(1)

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37 Expand and simplify 3(x + 5) + 2x.

(2)

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38 Expand and simplify 4(x - 3) + 7.

(2)

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Mark scheme · 2.8 Expanding Single Brackets: 2-hour Pack

Question 1

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

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

Question 2

one term correctly expanded	M1
$36n^2$ - 72n cao	A1

Answer: **$36n^2$ - 72n**

Question 3

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
2b + 40 cao	A1

Answer: **2b + 40**

Question 4

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
n + 13 cao	A1

Answer: **n + 13**

Question 5

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
7b - 21 cao	A1

Answer: **7b - 21**

Question 6

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
12b + 30 cao	A1

Answer: **12b + 30**

Question 7

one term correctly expanded	M1
$9n^2$ - 54n cao	A1

Answer: **$9n^2$ - 54n**

Question 8

4(a + 6) = 4a + 24	M1
6(a + 4) = 6a + 24	M1
collects like terms to give 10a + 48	A1

Answer: **10a + 48 (shown)**

Question 9

one term correctly expanded	M1
b^2 + 7b cao	A1

Answer: **b^2 + 7b**

Question 10

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
12x + 30 cao	A1

Answer: **12x + 30**

Question 11

2(a + 5) = 2a + 10	M1
4(a + 3) = 4a + 12	M1
collects like terms to give 6a + 22	A1

Answer: **6a + 22 (shown)**

Question 12

3(t + 6) = 3t + 18	M1
2(t + 3) = 2t + 6	M1
collects like terms to give 5t + 24	A1

Answer: **5t + 24 (shown)**

Question 13

expand both brackets: 3a + 6 and 2a - 10 shown	M1
5a - 4 cao	A1

Answer: **5a - 4**

Question 14

one term correctly expanded	M1
$3x^2$ - 5x cao	A1

Answer: **$3x^2$ - 5x**

Question 15

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
4n + 48 cao	A1

Answer: **4n + 48**

Question 16

6(n + 6) = 6n + 36	M1
4(n + 3) = 4n + 12	M1
collects like terms to give 10n + 48	A1

Answer: **10n + 48 (shown)**

Question 17

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
8a + 4 cao	A1

Answer: **8a + 4**

Question 18

6(t + 5) = 6t + 30	M1
6(t + 7) = 6t + 42	M1
collects like terms to give 12t + 72	A1

Answer: **12t + 72 (shown)**

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Question 19

3(t + 3) = 3t + 9	M1
6(t + 6) = 6t + 36	M1
collects like terms to give 9t + 45	A1

Answer: **9t + 45 (shown)**

Question 20

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
-n + 7 cao	A1

Answer: **-n + 7**

Question 21

one term correctly expanded	M1
$15n^2$ - 20n cao	A1

Answer: **$15n^2$ - 20n**

Question 22

expand both brackets: 3x + 12 and -2x + 2 or equivalent method	M1
x + 14 cao	A1

Answer: **x + 14**

Question 23

6(t + 2) = 6t + 12	M1
3(t + 7) = 3t + 21	M1
collects like terms to give 9t + 33	A1

Answer: **9t + 33 (shown)**

Question 24

first bracket expanded correctly	M1
second bracket expanded correctly (watch the signs)	M1
-2x + 52 cao	A1

Answer: **-2x + 52**

Question 25

expand 2(3x+4) to 6x + 8 or equivalent method	M1
x + 8 cao	A1

Answer: **x + 8**

Question 26

expand two of the brackets correctly eg x+2 and 3x-3 or equivalent	M1
expand the remaining bracket 4x+6 or equivalent	M1
8x + 5 cao	A1

Answer: **8x + 5**

Question 27

expand 2(3x+4) to 6x + 8 or equivalent method	M1
6x + 3 cao	A1

Answer: **6x + 3**

Question 28

expand -3(x+2) to -3x - 6 or equivalent method	M1
-3x + 4 cao	A1

Answer: **-3x + 4**

Question 29

expand both brackets: 5a + 15 and 2a - 2 shown	M1
7a + 13 cao	A1

Answer: **7a + 13**

Question 30

expand 5(2x-3) to 10x - 15	M1
expand -3(x+4) to -3x - 12	M1
7x - 27 cao	A1

Answer: **7x - 27**

Question 31

(a) expand both: 3(2x+3) = 6x + 9 and 2(x-1) = 2x - 2	M1
(a) 8x + 7 cao	A1
(a) Answer: **8x + 7**	
(b) substitute x = 5 into 8x + 7	M1
(b) 47 cao	A1

(b) Answer: **47**

Question 32

3x - 12 cao	B1

Answer: **3x - 12**

Question 33

-4x - 12 cao	B1

Answer: **-4x - 12**

Question 34

-2x + 14 cao	B1

Answer: **-2x + 14**

Question 35

12x + 6 cao	B1

Answer: **12x + 6**

Question 36

21x - 14 cao	B1

Answer: **21x - 14**

Question 37

expand 3(x+5) to 3x + 15 or equivalent method	M1
5x + 15 cao	A1

Answer: **5x + 15**

Question 38

expand 4(x-3) to 4x - 12 or equivalent method	M1
4x - 5 cao	A1

Answer: **4x - 5**

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