2.5 Simplifying and Collecting Like Terms: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Simplify 10np ÷ 2p.

(2)

2 Simplify 56np ÷ 8p.

(2)

3 Simplify $6b^2 \times 5b^2$.

(2)

4 Simplify 5m + 7 - 9m + 4c + 4.

(3)

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5 Write each of these in a simpler form, without multiplication or division signs where possible.

(a) m x m x c x c

(b) m + m + m

(2)

---

6 Simplify $2a^2 \times 7ac$.

(2)

---

7 Write each of these in a simpler form, without multiplication or division signs where possible.

(a) 4 x m x m x m

(b) m ÷ 4

(2)

---

8 Simplify $7b^7 \times 6b^5$.

(2)

---

9 Simplify $-2y^2 + 9y - 9y^2 + y - 2$.

(3)

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10 Simplify -5n - 3 + 7n + a - 2.

(3)

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11 Here is an expression: -3x + 4z + 7

(a) How many terms does it have?

(b) Write down the coefficient of x.

(2)

---

12 Simplify 2a x 9n.

(2)

---

13 Write each of these in a simpler form, without multiplication or division signs where possible.

(a) z x n x 9

(b) z x 5 + n x 2

(2)

---

14 Simplify 9n x 3n.

(2)

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15 Here is an expression: 3b - 4n - 5

(a) Write down the constant term.

(b) Write down the coefficient of n.

(2)

---

16 Simplify each expression by collecting like terms. Show working.

(a) Simplify 8x + 3x - 5x **(2)**

(b) Simplify 2a + 4b + 3a - b **(2)**

---

17 Simplify $-7z^2 - 5z + 2z^2 - 6z + 2$.

(3)

---

18 Write each of these in a simpler form, without multiplication or division signs where possible.

(a) q x 5 + c x 2

(b) q x q

(2)

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19 Simplify each product by multiplying the coefficient only (variables stay as letters).

(a) Calculate 4 x 3x **(1)**

(b) Calculate -2 x 5y **(1)**

20 Is -9a - 8n + 9 an expression, an equation or a formula? Give a reason.

(2)

21 State whether 3p and 8p are like terms. Give your answer as yes or no.

(1)

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Mark scheme · 2.5 Simplifying and Collecting Like Terms: 1-hour Pack

Question 1

multiplies (or divides) the numbers correctly or the letters correctly	M1
5n cao	A1

Answer: **5n**

Question 2

multiplies (or divides) the numbers correctly or the letters correctly	M1
7n cao	A1

Answer: **7n**

Question 3

correct coefficient	B1
correct power	B1

Answer: **$30b^4$**

Question 4

collects at least one pair of like terms correctly	M1
collects a second set of like terms correctly	M1
-4m + 4c + 11 cao	A1

Answer: **-4m + 4c + 11**

Question 5

(a) m^2c^2	B1
(b) 3m	B1

Answer: **(a) m^2c^2, (b) 3m**

Question 6

multiplies (or divides) the numbers correctly or the letters correctly	M1
$14a^3c$ cao	A1

Answer: **$14a^3c$**

Question 7

(a) $4m^3$	B1
(b) m/4	B1

Answer: **(a) $4m^3$, (b) m/4**

Question 8

correct coefficient	B1
correct power	B1

Answer: **$42b^{12}$**

Question 9

collects at least one pair of like terms correctly	M1
collects a second set of like terms correctly	M1
$-11y^2 + 10y - 2$ cao	A1

Answer: **$-11y^2 + 10y - 2$**

Question 10

collects at least one pair of like terms correctly	M1
collects a second set of like terms correctly	M1
2n + a - 5 cao	A1

Answer: **2n + a - 5**

Question 11

(a) 3	B1
(b) -3	B1

Answer: **(a) 3, (b) -3**

Question 12

multiplies (or divides) the numbers correctly or the letters correctly	M1
18an cao	A1

Answer: **18an**

Question 13

(a) 9zn	B1
(b) 5z + 2n	B1

Answer: **(a) 9zn, (b) 5z + 2n**

Question 14

multiplies (or divides) the numbers correctly or the letters correctly	M1
$27n^2$ cao	A1

Answer: **$27n^2$**

Question 15

(a) -5	B1
(b) -4	B1

Answer: **(a) -5, (b) -4**

Question 16

(a) collecting like terms: 8x + 3x - 5x -> (8+3-5)x	M1
(a) 6x cao	A1
(a) Answer: **6x**	
(b) grouping a terms and b terms: 2a+3a and 4b-b	M1
(b) 5a + 3b cao	A1
(b) Answer: **5a + 3b**	

Question 17

collects at least one pair of like terms correctly	M1
collects a second set of like terms correctly	M1
$-5z^2 - 11z + 2$ cao	A1

Answer: **$-5z^2 - 11z + 2$**

Question 18

(a) 5q + 2c	B1
(b) q^2	B1

Answer: **(a) 5q + 2c, (b) q^2**

Question 19

(a) 12x cao	B1
(a) Answer: **12x**	
(b) -10y cao	B1
(b) Answer: **-10y**	

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Question 20

Expression	**B1**
reason: no equals sign	**B1**

Answer: **Expression, because it has no equals sign**

Question 21

Yes, because both terms have the letter p	**B1**

Answer: **Yes**

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