

Name:

Exam Style Questions

## Multiplying Terms



Corbettmaths

Equipment needed: Pen, Calculator

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

Video 18



Answers and Video Solutions



1. Simplify  $w \times 5$



$5w$

(1)

2. Simplify  $2 \times 5m$



$10m$

(1)

3. Simplify  $x \times x$



$x^2$

(1)

4. Simplify  $a \times c \times b$



$abc$

(1)

5. Simplify  $x \times y \times 3$



$3xy$

(1)

6. Simplify



(a)  $8 \times y \times 2$

$\frac{16y}{\dots\dots\dots}$   
(1)

(b)  $a \times a \times a$

$\frac{a^3}{\dots\dots\dots}$   
(1)

(c)  $3 \times a \times c$

$\frac{3ac}{\dots\dots\dots}$   
(1)

(d)  $w \times 5 \times e$

$\frac{5ew}{\dots\dots\dots}$   
(1)

(e)  $2y \times y$

$\frac{2y^2}{\dots\dots\dots}$   
(1)

(f)  $3a \times 4c$

$\frac{12ac}{\dots\dots\dots}$   
(1)

(g)  $5w \times 6w$

$\frac{30w^2}{\dots\dots\dots}$   
(1)

(h)  $2m^2 \times 4m$

$\frac{8m^3}{\dots\dots\dots}$   
(1)

7. Which of the following expressions is not equal to the others?



$4a \times 2y$

$8a \times y$

$2ay \times 4a$

$a \times 8y$

$8ay$

$8ay$

$8a^2y$

$8ay$

$$\frac{2ay \times 4a}{(2)} (8a^2y)$$

8. Aaron is trying to simplify  $3y \times y = 3y^2$



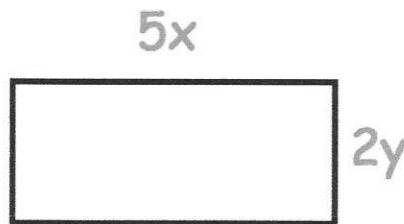
His answer is  $4y$

Explain his mistake.

Aaron has worked out  $3y + y$ , not  $3y \times y$

(2)

9. A rectangle has length  $5x$  and width  $2y$ .



Find an expression for the area of the rectangle.

$5x \times 2y$

$$\frac{10xy}{(2)}$$

10. Simplify  $y \times y \times y$



$$\frac{y^3}{\dots\dots\dots} \quad (1)$$

11. Simplify  $5 \times m \times p$



$$\frac{5mp}{\dots\dots\dots} \quad (1)$$

12. Simplify  $w^5 \times w^3$



$$\frac{w^8}{\dots\dots\dots} \quad (1)$$

13. Simplify  $5a \times 3a \times 2a$



$$\frac{30a^3}{\dots\dots\dots} \quad (1)$$

14. Simplify  $p \times s \times 5$



$$\frac{5ps}{\dots\dots\dots} \quad (1)$$

15. Simplify  $9 \times c \times d \times 3$



$$\frac{27cd}{\dots\dots\dots} \quad (1)$$

16. Simplify  $74c \times 21d$



$$\frac{1554cd}{(1)}$$

17. Isla is simplifying  $y + 2y \times y$



Circle the correct answer.

$$y + 2y^2$$
$$2y^2 + y$$

$4y$

$3y^2$

$2y^3$

$2y^2 + y$

Order of operations  
multiplication before addition

(1)

18. Simplify



(a)  $m^2 \times m^2$

$$\frac{m^4}{(1)}$$

(b)  $w^9 \times w^8$

$$\frac{w^{17}}{(1)}$$

(c)  $8k^3 \times 2k^2 \times k^1$

$$\frac{16k^6}{(1)}$$

(d)  $-5y^2 \times 5y$

$$\frac{-25y^3}{\dots\dots\dots} \quad (1)$$

(e)  $4am \times m$

$$\frac{4am^2}{\dots\dots\dots} \quad (1)$$

(f)  $(-2) \times (-4ay) \times (-2a)$

$$\frac{-16a^2y}{\dots\dots\dots} \quad (1)$$

(g)  $6ay \times 3ay$

$$\frac{18a^2y^2}{\dots\dots\dots} \quad (1)$$

19. A rectangle and square have the same area.  
The rectangle has length  $12x$  and width  $3x$



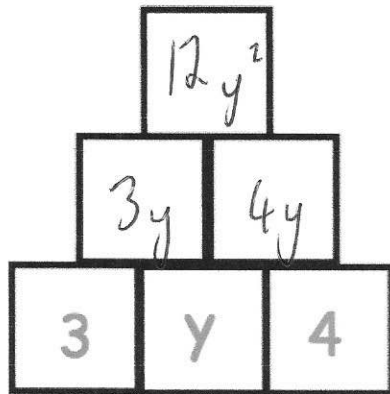
Find the length of each side of the square.

rectangle:  $12x \times 3x = 36x^2$

square:  $6x \times 6x = 36x^2$   
=

$$\frac{6x}{\dots\dots\dots} \quad (3)$$

20.



To find the contents of each empty box, multiply the two terms directly beneath it.

Complete the multiplication pyramid.

(3)

21. Henry, Jack, Leon and Conor are trying to work out  $4w^2 \times 2w^5$



Henry says the answer is  $6w^7$  ✗

Jack says the answer is  $8w^7$  ✓

$$8w^7$$

Leon says the answer is  $8w^{10}$  ✗

Conor says the answer is  $6w^{10}$  ✗

Tick a box to show who is correct.

Henry

Leon

Jack

Conor

(1)



22. Simplify  $2y^3 \times 3y^2$



$$\frac{6y^5}{\dots\dots\dots} \quad (2)$$

23. Simplify  $6c^2d \times 4cd^3$



$$\frac{24c^3d^4}{\dots\dots\dots} \quad (2)$$

24. Simplify  $y^8 \times y^{-2}$



$$\frac{y^6}{\dots\dots\dots} \quad (1)$$

25. Simplify  $8a^{-3}c^4 \times 2a^4c$



$$\frac{16ac^5}{\dots\dots\dots} \quad (2)$$

26. Simplify  $\frac{3}{5} \times 20y$



$$\frac{3}{5} \text{ of } 20 = 12$$

$$\frac{1}{5} \text{ of } 20 = 4$$

$$4 \times 3 = 12$$

$$\text{or } \frac{3}{5} \times \frac{20}{1} = \frac{60}{5} = 12$$

$$\frac{12y}{\dots\dots\dots} \quad (1)$$

27. The rule for a sequence is that each term is found by multiplying the two previous terms.



The first two terms are  $2x$  and  $3y$ .

$$2x \quad 3y \quad \underline{6xy} \quad \underline{18xy^2} \quad \underline{\quad} \quad \dots \quad \dots$$

Find the next three terms.

$$2x \times 3y = 6xy$$

$$3y \times 6xy = 18xy^2$$

$$6xy \times 18xy^2 = 108x^2y^3$$

$$\underline{6xy} \quad \underline{18xy^2} \quad \underline{108x^2y^3} \quad (3)$$

28. Simplify

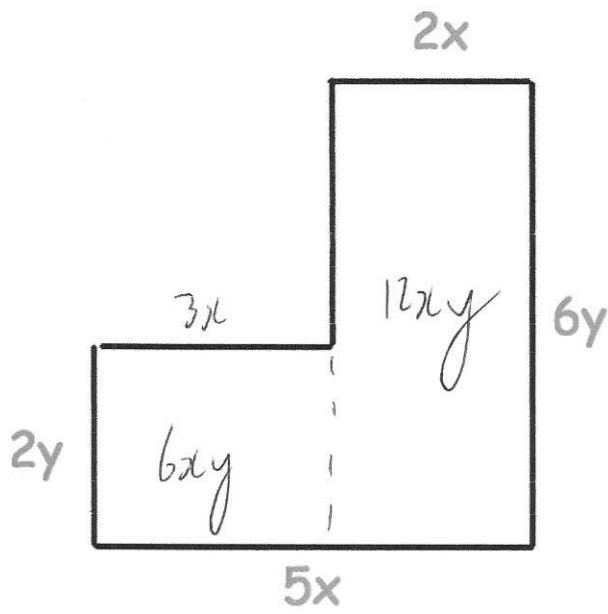


$$(4cd^3)^2$$

$$4cd^3 \times 4cd^3 = 16c^2d^6$$

$$\underline{16c^2d^6} \quad (2)$$

29.



Write down an expression for the area of the shape.

$$\frac{18xy}{(3)}$$