

Name: _____

Exam Style Questions



Algebra: Laws of Indices

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 17



1. (a) Simplify

$$m^5 \times m^3$$

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

(b) Simplify

$$m^8 \div m^2$$

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

(c) Simplify

$$(m^3)^2$$

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

2. Simplify

$$\frac{m^9 \times m}{m^5} \quad \text{c} \quad \frac{m^{10}}{m^5} = m^5$$

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

3.

(a) Simplify

$$w^4 \times w^4$$

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

(b) Simplify

$$a^6 \div a^3$$

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

4. Match the expressions.

$$\begin{array}{ll} c^{10} \div c^5 & c^{16} \\ c^7 \times c^3 & c^5 \\ (c^8)^2 & c^2 \\ \frac{c^6}{c^4} & c^{10} \end{array}$$

(4)

5. Simplify the following.

$$\frac{s^3 \times s^4}{s^2}$$

$$\frac{s^7}{s^2}$$

$$s^5$$

(2)

6.

(a) Simplify

$$w^3 \times w^{-5} = w^{-2}$$

$$w^{-2}$$

(1)

(b) Simplify

$$a^4 \div a^{-2}$$

$$a^6$$

(1)

7. Simplify

$$2a^3c^3 \times 3a^2c$$

$$\underline{6a^5c^4}$$

(2)

8. Simplify

$$\frac{10m^5n^4}{2m^2n}$$

$$\underline{5m^3n^3}$$

(2)

9. Simplify

$$(2m^4)^3$$

$$\underline{8m^{12}}$$

(2)

10. Simplify

$$\frac{a^{1/5} \times a^{2/3}}{a^{3/5}}$$

$$\frac{1}{5} + \frac{2}{3} = \frac{3}{15} + \frac{10}{15} = \frac{13}{15}$$

$$\frac{13}{15} - \frac{3}{5} = \frac{13}{15} - \frac{9}{15} = \frac{4}{15}$$

$$a^{\frac{4}{15}}$$

(3)

11. Simplify fully

$$\sqrt{\frac{50a^5}{2a^3}}$$

$$\sqrt{25a^2}$$

$$5a$$

(3)