Master Maths 10 Worksheet 20 Exponentials 1



Name:

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1.	Write	1n	exponent	torm

$$x \times y \times 3x \times 4y \times x \times x \times x \times y$$



2. Simplify the following expressions.

(a)
$$x^5 \times x^6$$

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 (b) $2m^4 \times 5n^3 \times m^7 \times 2n \times n^5$





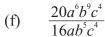
(c)
$$2a^4b^5c \times 6a^5b^3c^6$$
 (d) $y^8 \div y^5$

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(e)
$$\frac{8m^8n^{12}}{4m^6n}$$







(g)
$$(a^3)^4$$

- (h) $(2m^5)^6$ (i) $(2x^5y^6z)^3$









$$\text{(k)} \quad \left(\frac{2a^3b^2c^6}{3m^4n}\right)^5$$





- (1) x^{0}
- (m) $6m^{\circ}$
- (n) $(x^2y^3)^0 + (7x)^0 + 6x^0$







3. Write the following with positive indices.

$$\frac{3}{4}a^4b^{-5}c^{-1}$$

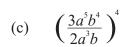
4. Simplify the following expressions.

(a)
$$\frac{(x^4y^5)^2 \times (x^2y^3)^2}{x^5y^7}$$

(a)
$$\frac{(x^4y^5)^2 \times (x^2y^3)^3}{x^5y^7}$$
 (b) $\frac{(m^3n^4)^3 \times (m^6n^5)^4}{(m^2n^4)^6}$













5. Write the following surds in index form.

(a)
$$\sqrt[4]{m}$$

(b)
$$(\sqrt[5]{a})^6$$



6. Use a calculator to evaluate the following.

(a)
$$5^7 - 7$$

(b)
$$8^{\frac{8}{3}}$$

(a)
$$5^7 - 7^5$$
 (b) $8^{\frac{8}{3}}$ (c) $(\sqrt[4]{28561})^3$







7. Simplify the following.

(a)
$$x^{\frac{1}{2}}y^{\frac{2}{3}} \times x^{\frac{9}{4}}y^{\frac{2}{5}}$$

(a)
$$x^{\frac{1}{2}}y^{\frac{2}{3}} \times x^{\frac{9}{4}}y^{\frac{2}{9}}$$
 (b) $\frac{(m^{\frac{1}{2}}n^{\frac{3}{4}})^8 \times (m^{\frac{5}{6}}n^{\frac{2}{3}})^6}{(m^2n^{\frac{5}{4}})^4}$



