Indices – Ch 1+2 for Revision

WORKING

1. $\frac{m^5}{m^3} = m^2$

2. $m^5 \times m^{-8}$

$= m^{-3}$

$= \frac{1}{m^3}$

3. $p^3(p^2 - p^{-3})$

$= p^5 - p^0$

$= p^5 - 1$

4. $\frac{3a^2 \times 2a}{a^2}$

$= \frac{6a^3}{a^2}$

$= 6a$

MARKS

- $\frac{x^m}{x^n} = x^{m-n}$
- $x^m \times x^n = x^{m+n}$
- $x^{-m} = \frac{1}{x^m}$
- $x^m \times x^n = x^{m+n}$
- $x^0 = 1$
- $3 \times 2 = 6$
- $x^m \times x^n = x^{m+n}$
- $\frac{x^m}{x^n} = x^{m-n}$

WORKING	MARKS
5. $\frac{y^4 \times y}{y^{-2}} = \frac{y^5}{y^{-2}}$	• $x^m \times x^n = x^{m+n}$
$= y^7$	• $\frac{x^m}{x^n} = x^{m-n}$
6. $16^{3/4} = \sqrt[4]{16^3}$	• $x^{m/n} = \sqrt[n]{x^m}$
$= 2^3$	• evaluate
$= 8$	
7. $\frac{(x^2y^4)}{(x^{-3}y^6)} = x^5y^{-2}$	• $x^m \times x^n = x^{m+n}$
$= \frac{x^5}{y^2}$	• $x^{-m} = \frac{1}{x^m}$
8. $k^8 \times (k^2)^{-3}$	• $(x^m)^n = x^{mn}$
$= k^8 \times k^{-6}$	• $x^m \times x^n = x^{m+n}$
$= k^2$	

WORKING

9. $a^{2/3}(a^{2/3} - a^{-2/3})$

$= a^{4/3} - a^{0}$

$= \sqrt[3]{a^4} - 1$

10. $a^{1/2}\left(a + \frac{1}{a}\right)$

$= a^{3/2} + \frac{a^{1/2}}{a}$

$= a^{3/2} + \frac{1}{a^{1/2}}$

$= \sqrt{a^3} + \frac{1}{\sqrt{a}}$

MARKS

- $x^m \times x^n = x^{m+n}$
- $x^{m/n} = \sqrt[n]{x^m}$ and $x^0 = 1$

- $x^m \times x^n = x^{m+n}$ and $\frac{x^{1/2}}{x} = \frac{1}{x^{1/2}}$
- $x^{m/n} = \sqrt[n]{x^m}$