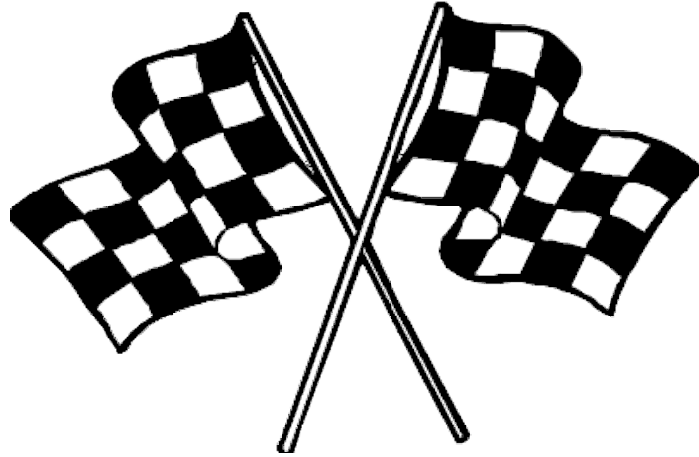


5.5 Exercise

Index Form Race N° 8

Do NOT use a calculator



Write the answers in prime index form, p^m , where p is a prime number.

Target time : 15 minutes

(a) 4^{52}

(b) 25^8

(c) 27

(d) $8^7 \times 8^5$

(e) $9^2 \times 27^4$

(f) $(49^{11})^3$

(g) 3×81^2

(h) $25^4 \times 125^3$

(i) $\sqrt{\sqrt{25^{20}}}$

(j) $\frac{9^7}{27}$

(k) $(8^5)^{10}$

(l) $\frac{81^7}{3}$

(m) $4^{53} \times 2$

(n) $\frac{(8^8)^5}{(4^6)^3}$

(o) $\frac{16^{25}}{4}$

$$(p) \quad (4^9)^3 \times 16$$

$$(q) \quad (27^{20})^{\frac{1}{2}}$$

$$(r) \quad (5^7)^7 \times 25^5$$

$$(s) \quad \frac{4^9}{4^2} \times \frac{4^7}{4^6}$$

$$(t) \quad \frac{9^5 \times 27}{3^8}$$

$$(u) \quad \sqrt{8^{24}}$$

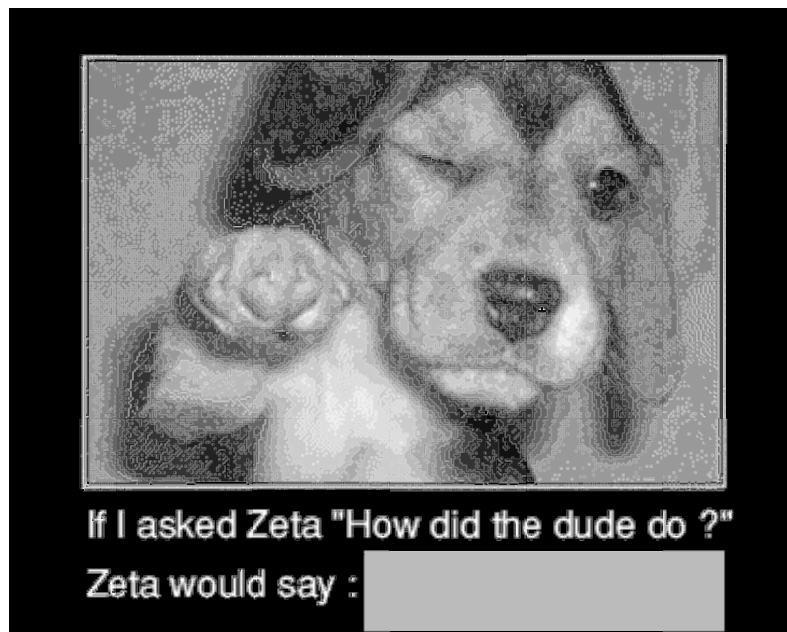
$$(v) \quad \frac{49^{10}}{7^{\frac{1}{2}}} \times \frac{7^{10}}{7^{\frac{1}{2}}}$$

$$(w) \quad 4^{\frac{1}{2}} \times 16^{\frac{1}{2}}$$

$$(x) \quad \frac{(121^7)^4}{(11^2)^6}$$

$$(y) \quad \sqrt{121^{12} \times 11^{26}}$$

$$(z) \quad \sqrt{\frac{(9^2)^{14}}{3^8}}$$



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In October 2020, Shrewsbury School was voted "**Independent School of the Year 2020**"

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Teachers may obtain detailed worked solutions to the exercises by email from mhh@shrewsbury.org.uk