

Name : _____

Expanded Form & Exponential Form

A) Express each of the following in expanded form.

1) $\left(\frac{2b}{3}\right)^9 = \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3} \cdot \frac{2b}{3}$

2) $(-3v)^6 = (-3v) \cdot (-3v) \cdot (-3v) \cdot (-3v) \cdot (-3v) \cdot (-3v)$

3) $\left(\frac{9}{5}\right)^4 = \frac{9}{5} \cdot \frac{9}{5} \cdot \frac{9}{5} \cdot \frac{9}{5}$

4) $(-4)^7 = (-4) \cdot (-4) \cdot (-4) \cdot (-4) \cdot (-4) \cdot (-4) \cdot (-4)$

5) $\left(-\frac{w}{8}\right)^5 = \left(-\frac{w}{8}\right) \cdot \left(-\frac{w}{8}\right) \cdot \left(-\frac{w}{8}\right) \cdot \left(-\frac{w}{8}\right) \cdot \left(-\frac{w}{8}\right)$

6) $c^8 = c \cdot c \cdot c \cdot c \cdot c \cdot c \cdot c \cdot c$

B) Express each of the following in expanded form.

1) $(-3.2) \cdot (-3.2) \cdot (-3.2) = (-3.2)^3$

2) $\frac{b}{6} \cdot \frac{b}{6} \cdot \frac{b}{6} \cdot \frac{b}{6} \cdot \frac{b}{6} = \left(\frac{b}{6}\right)^5$

3) $8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 = 8^8$

4) $\left(-\frac{7}{2}\right) \cdot \left(-\frac{7}{2}\right) \cdot \left(-\frac{7}{2}\right) \cdot \left(-\frac{7}{2}\right) = \left(-\frac{7}{2}\right)^4$

5) $(-5x) \cdot (-5x) \cdot (-5x) \cdot (-5x) \cdot (-5x) \cdot (-5x) \cdot (-5x) = (-5x)^7$

6) $\frac{t}{4} \cdot \frac{t}{4} = \left(\frac{t}{4}\right)^2$

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