

$$1) (-8a^1b^7)(3a^4b^2)$$

$$-24a^5b^9$$

$$(-5k^3m^7)(-5k^3m^7)$$

$$2) ((-5)^1k^3m^7)^2$$

$$(-5)^2k^6m^{14}$$

$$25k^6m^{14}$$

$$3) 9x^4y - 3x^4y$$

$$6x^4y$$

$$4) x^3 \cdot x^2 \cdot x^8$$

$$x^{3+2+8} = x^{13}$$

$$5) (-3)^2(-3)^5$$

$$(-3)^{2+5} = (-3)^7$$

$$6) (2r^5t^3)(3r^7t^6)^2$$

$$3^2r^{14}t^{12}$$

$$(2r^5t^3)9r^{14}t^{12}$$

$$18r^{19}t^{15}$$

7)

$$3x^2y^1(2x^5y^6)(-5x^8y^4)$$

$$3 \cdot 2 \cdot -5 x^{2+5+8} y^{1+6+4}$$

$$-30 x^{15} y^{11}$$

$$8) 4^2 \cdot 4^6 \cdot 4^7$$

$$4^{2+6+7} = 4^{15}$$

$$9) (-3)^4(-3)^2$$

$$(-3)^{4+2} = (-3)^6 = 3^6$$

Negative base raised to an even power yields a positive result.

10)
$$\frac{3 \cancel{2} v^{\cancel{9}-2} w^{\cancel{4}}}{2 \cancel{14} v^{\cancel{2}} w^{10-4}}$$

$$\frac{3 v^7}{2 w^6}$$

11)
$$\frac{(q^6 r^7)^2}{q r^{19}}$$

$$\frac{q^{\cancel{12}+2} r^{\cancel{14}}}{q^{\cancel{1}} r^{19-5}}$$

$$\frac{q^{14}}{r^5}$$

12)
$$\left(\frac{x^{\cancel{2}} y^{\cancel{5}-4}}{x^{\cancel{10}-8} y^{\cancel{1}} z^8} \right)^3$$

$$\left(\frac{y^4}{x^8 z^8} \right)^3$$

$$\frac{y^{12}}{x^{24} z^{24}}$$

13)
$$\left(\frac{2 \cancel{8} x^{\cancel{1}} y^{\cancel{9}-7} z}{5 \cancel{20} x^{\cancel{4}-5} y^{\cancel{2}} \right)^3$$

$$\left(\frac{2^1 y^7 z^1}{5^1 x^4} \right)^3$$

$$\frac{2^3 y^{21} z^3}{5^3 x^{12}} = \frac{8 y^{21} z^3}{125 x^{12}}$$