

1. Simplify fully:

$$a^2 \times a^3$$

$$b^3 \times b^4$$

$$a^1 \times a^0$$

$$b^0 \times b^0$$

$$x^3 \times x^{-1}$$

$$y^6 \times y^{-2}$$

$$c^5 \times c^3$$

$$g^7 \times g^4$$

$$h^1 \times h^0$$

$$p^0 \times p^0$$

$$z^6 \times z^{-1}$$

$$q^6 \times q^{-4}$$

$$l^2 \times l^7$$

$$m^1 \times m^4$$

$$k^{-1} \times k^0$$

$$t^0 \times t^0$$

$$w^{-3} \times w^{-1}$$

$$r^5 \times r^{-7}$$

2. Simplify fully:

$$a^2 \times a^b$$

$$b^3 \times b^c$$

$$a^x \times a^0$$

$$b^t \times b^c$$

$$x^{2y} \times x^{-1}$$

$$y^{3w} \times y^{-2}$$

$$c^x \times c^3$$

$$g^{7t} \times g^4$$

$$h \times h^{4z}$$

$$p^0 \times p^{3q}$$

$$z^{6k} \times z^{-1}$$

$$q^{6l} \times q^{-4}$$

$$l^{2p} \times l^h$$

$$m^{11y} \times m^{-4z}$$

$$k^{-v} \times k^{-k}$$

$$t^{14r} \times t^{-14r}$$

$$w^{-3t} \times w^{-6y}$$

$$r^{51w} \times r^{-7m}$$

3. Simplify fully:

$$a^{2b} \times a^b$$

$$b^{3c} \times b^c$$

$$a^x \times a^{4x}$$

$$b^t \times b^{5t}$$

$$x^{2y+1} \times x^{3y-1}$$

$$y^{3w+3} \times y^{2w-2}$$

$$c^r \times c^{3r}$$

$$g^{7t} \times g^{4t}$$

$$h \times h^{4z+3}$$

$$p^{q+1} \times p^{3q}$$

$$z^{16k} \times z^{k-1}$$

$$q^{6l+2} \times q^{l-4}$$

$$l^{2p} \times l^{p+h}$$

$$m^{11y} \times m^{y-4z}$$

$$k^{-v+1} \times k^{-k}$$

$$t^{14r+4} \times t^{4-14r}$$

$$w^{4-3y} \times w^{-6y}$$

$$r^{51w+4y+p} \times r^{-7m-3y-5p}$$

4. Simplify fully:

$$a^{2b} \div a^b$$

$$b^{3c} \div b^c$$

$$a^x \div a^{4x}$$

$$b^t \div b^{5t}$$

$$x^{2y+1} \div x^{3y-1}$$

$$y^{3w+3} \div y^{2w-2}$$

$$c^r \div c^{3r}$$

$$g^{7t} \div g^{4t}$$

$$h \div h^{4z+3}$$

$$p^{q+1} \div p^{3q}$$

$$z^{16k} \div z^{k-1}$$

$$q^{6l+2} \div q^{l-4}$$

$$l^{2p} \div l^{p+h}$$

$$m^{11y} \div m^{y-4z}$$

$$k^{-v+1} \div k^{-k}$$

$$t^{14r+4} \div t^{4-14r}$$

$$w^{4-3y} \div w^{-6y}$$

$$r^{51w+4y+p} \div r^{-7m-3y-5p}$$

4. Simplify fully:

$$\frac{a^{2b}}{a^{3b}}$$

$$\frac{b^{3c}}{b^{2c}}$$

$$\frac{a^x}{a^{5x}}$$

$$\frac{b^{2t}}{b^{5t}}$$

$$\frac{x^{2y+1}}{x^{4y-1}}$$

$$\frac{y^{3w-3}}{y^{2w-2}}$$

$$\frac{c^{2r}}{c^{3r}}$$

$$\frac{g^{7t}}{g^{4t+3}}$$

$$\frac{h^3}{h^{5z+2}}$$

$$\frac{p}{p^{3q}}$$

$$\frac{z^k}{z^{3k-1}}$$

$$\frac{q^{2l+2}}{q^{2l-4}}$$

$$\frac{l^{12p}}{l^{p+h}}$$

$$\frac{m^y}{m^{y-4z}}$$

$$\frac{k^{-v+1}}{k^{-2k}}$$

$$\frac{t^{14r+4}}{t^{14-14r}}$$

$$\frac{w^{4-3y}}{w^{-8y}}$$

$$\frac{r^{51w+4y}}{r^{-m-3y-5p}}$$