

Topic: Distributive Property with fractions**Question:** Use the Distributive Property to expand the expression.

$$\frac{2x}{yz} \left(\frac{5x}{3y} + \frac{x^2}{z} \right)$$

Answer choices:

A $\frac{10x^2}{3y^2z} + \frac{2x^3}{yz^2}$

B $\frac{10x}{3y^2} + \frac{2x^3}{yz^2}$

C $\frac{10x^2}{3yz} + \frac{2x^3}{yz^2}$

D $\frac{10x^2}{3y^2} + \frac{2x^2}{yz^2}$



Solution: A

Multiply each term in the parentheses by $2x/yz$.

$$\frac{2x}{yz} \left(\frac{5x}{3y} + \frac{x^2}{z} \right)$$

$$\left(\frac{2x}{yz} \cdot \frac{5x}{3y} \right) + \left(\frac{2x}{yz} \cdot \frac{x^2}{z} \right)$$

$$\frac{(2x)(5x)}{(yz)(3y)} + \frac{(2x)(x^2)}{(yz)(z)}$$

$$\frac{10x^2}{3y^2z} + \frac{2x^3}{yz^2}$$



Topic: Distributive Property with fractions**Question:** Use the Distributive Property to expand the expression.

$$\left(abx - \frac{b^2x^2}{a^3} \right) \frac{bx^2}{a}$$

Answer choices:

A $bx^2 - \frac{b^3x^4}{a^3}$

B $b^2x^2 + \frac{b^3x^4}{a^4}$

C $b^2x^3 - \frac{b^3x^4}{a^4}$

D $bx^3 - \frac{b^2x^2}{a^4}$



Solution: C

Rewrite abx as $abx/1$.

$$\left(abx - \frac{b^2x^2}{a^3} \right) \frac{bx^2}{a}$$

$$\left(\frac{abx}{1} - \frac{b^2x^2}{a^3} \right) \frac{bx^2}{a}$$

Multiply each term in the parentheses by bx^2/a .

$$\left(\frac{bx^2}{a} \cdot \frac{abx}{1} \right) - \left(\frac{bx^2}{a} \cdot \frac{b^2x^2}{a^3} \right)$$

$$\frac{(bx^2)(abx)}{(a)(1)} - \frac{(bx^2)(b^2x^2)}{(a)(a^3)}$$

$$\frac{ab^2x^3}{a} - \frac{b^3x^4}{a^4}$$

Cancel the a from the numerator and denominator of the first term.

$$b^2x^3 - \frac{b^3x^4}{a^4}$$



Topic: Distributive Property with fractions**Question:** Use the Distributive Property to expand the expression.

$$\frac{pb}{t^2} \left(\frac{2s}{t} - \frac{pj}{3t^2} + r \right)$$

Answer choices:

A $\frac{2pbs}{t^3} - \frac{p^2bj}{3t^4} - \frac{pbr}{t^2}$

B $\frac{2pbs}{t^3} - \frac{p^2bj}{3t^4} + \frac{pbr}{t^2}$

C $\frac{2pbs}{t^3} - \frac{2pbj}{3t^4} + \frac{pbr}{t^2}$

D $\frac{2pbs}{t^3} - \frac{2pbj}{3t^3} + \frac{pbr}{t^2}$



Solution: B

Rewrite r as $r/1$.

$$\frac{pb}{t^2} \left(\frac{2s}{t} - \frac{pj}{3t^2} + r \right)$$

$$\frac{pb}{t^2} \left(\frac{2s}{t} - \frac{pj}{3t^2} + \frac{r}{1} \right)$$

Multiply the three terms inside the parentheses by pb/t^2 .

$$\frac{pb}{t^2} \left(\frac{2s}{t} \right) - \frac{pb}{t^2} \left(\frac{pj}{3t^2} \right) + \frac{pb}{t^2} \left(\frac{r}{1} \right)$$

$$\frac{(pb)(2s)}{(t^2)(t)} - \frac{(pb)(pj)}{(t^2)(3t^2)} + \frac{(pb)(r)}{(t^2)(1)}$$

$$\frac{2pbs}{t^3} - \frac{p^2bj}{3t^4} + \frac{pbr}{t^2}$$

