

# Multiply and divide algebraic fractions

H

1

a) Work out  $7 \times \frac{1}{2} =$

b) Work out  $x \times \frac{1}{2} =$

c) Substitute  $x = 7$  into your answer to part b).

d) What do you notice about your answers to a) and c)?

2

Match each expression to a simplified version.

$x \times \frac{2}{5}$

$\frac{5x}{2}$

$\frac{3}{4} \times x$

$\frac{4x}{3}$

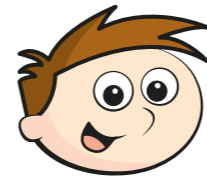
$5x \div 2$

$\frac{2x}{5}$

$4 \times x \div 3$

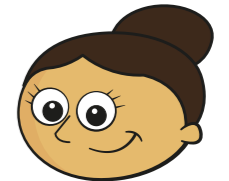
$\frac{3}{4}x$

3



Teddy

$\frac{3}{4}x$  and  $\frac{3x}{4}$  are exactly the same fraction.



Dora

No they're not, the numbers and letters are arranged differently.

Work out  $\frac{3}{4}x$  and  $\frac{3x}{4}$  using the given values of  $x$ .

a)  $x = 2$

$\frac{3}{4}x = \frac{3}{4} \times 2 =$

$\frac{3x}{4} = \frac{3 \times 2}{4} =$

b)  $x = 3$

$\frac{3}{4}x =$

$\frac{3x}{4} =$

c)  $x = 10$

$\frac{3}{4}x =$

$\frac{3x}{4} =$

Do you agree with Teddy or Dora? \_\_\_\_\_

Explain why.

4 Simplify the calculations.

a)  $x \times \frac{1}{3} =$

d)  $\frac{x}{2} \times \frac{1}{3} =$

b)  $\frac{4}{5} \times y =$

e)  $\frac{y}{5} \times \frac{2}{3} =$

c)  $\frac{1}{5} \times z \times 3 =$

f)  $\frac{3}{5} \times \frac{z}{2} \times 4 =$

5 Circle the expression in each set that is **not** equivalent to the others.

a)  $\frac{2a}{5}$        $a \times 2 \div 5$        $\frac{a \times 2}{5}$        $a \div 2 \times 5$

b)  $\frac{2a}{3}$        $a \times \frac{2}{3}$        $a \div 2 \times 3$        $a \div 3 \times 2$

6 Complete the calculations.

a)  $\frac{w}{7} \div 2 =$

c)  $\frac{3}{w} \div w =$

b)  $\frac{3}{w} \div 2 =$

d)  $\frac{w}{5} \div 2w =$

7 Simplify the expressions.

a)  $\frac{a}{5} \times \frac{b}{3} =$

d)  $\frac{a}{5} \div \frac{3}{b} =$

b)  $\frac{a}{5} \times \frac{3}{b} =$

e)  $\frac{a}{4} \times \frac{b}{2} =$

c)  $\frac{a}{5} \div \frac{b}{3} =$

f)  $\frac{2}{b} \times \frac{a}{4} =$