

Stage 8

Multiplication & Division Pamphlet

Stage 8

Multiplication & Division Strategies



Use conversion between fractions & decimals

$$0.75 \times 2.4 = \square$$

Change one of the decimals into a fraction

$$\frac{3}{4} \times 2.4$$

Use your fraction strategies to solve

I know that $\frac{1}{2}$ of 2.4 is 1.2 which means $\frac{1}{4}$ is

$$0.6 \text{ so } \frac{3}{4} \text{ is } 1.2 + 0.6 = 1.8$$

$$\text{so } 0.75 \times 2.4 = 1.8$$

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Multiplication & Divisions Strategies



Using place value

$$0.15 \times 4.6 = \square$$

Expand the numbers into $\frac{1}{100}$ s & $\frac{1}{1000}$ s

$$(0.1 \times 4.6) + (0.05 \times 4.6) =$$

Now solve and recombine

$$0.46 + 0.23 = 0.69$$

$$\text{so } 0.15 \times 4.6 = 0.69$$

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Multiplication & Division Strategies



Using doubling & halving

$$5.6 \div 0.4 = \square$$

Double one of the numbers to simplify the equation.

$$(5.6 \div 0.8) \times 2 = \square$$

I know that $56 \div 8$ is 7, so $5.6 \div 0.8$ is also 7.

But why do I need to multiply by 2?

When you divided 5.6 by a number twice as big, you ended up with an answer that was half as big, so to compensate for this you will need to double the answer.

$$\text{so } 5.6 \div 0.4 = 14 (7 \times 2)$$

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Using commutativity

$$32 \times 0.125 = \square$$

Write the equation as ...

$$0.125 \times 32 = \square$$

Now I will use my fraction/decimal knowledge

I know that 0.125 is $\frac{1}{8}$, and $\frac{1}{8} \times 8 = 1$

So I will rewrite the question by changing 32 into a multiplication equation (8×4)

My new equation is $0.125 \times 8 \times 4$

$$\text{If } 0.125 \times 8 = 1, \text{ then } 0.125 \times 8 \times 4 = 4$$

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Multiplying numerators & denominators

$$\frac{2}{3} \times \frac{2}{5} = \quad \text{or} \quad \frac{2}{3} \text{ of } \frac{2}{5}$$

Multiply the numerators together, then multiply the denominators together

$$\frac{2}{3} \times \frac{2}{5} = \frac{4}{15} \quad \text{What it looks like}$$

