

Mental and written multiplication and division strategies

WORKED EXAMPLE

How would you approach this calculation? What base facts could you use to help you? What is the answer? How can you check your answer to make sure that it is accurate?

$$642 \div 6 = \square$$

I have noticed

that I do not need to use a formal written strategy such as: $6 \overline{)642}$

I know that

I can use the 6 times table to be more efficient.

I can work out

$642 \div 6$ by regrouping 642 into 600 and 42. These are multiples of 6.

$600 \div 6 = 100$ and $42 \div 6 = 7$ so $642 \div 6 = 107$

I know that

I can check using the inverse operation. $107 \times 6 = 600 + 42 = 642$.

strategy fact inverse operation efficient regroup 10 / 100 times smaller / bigger

REHEARSE

How would you approach these calculations? What base facts could you use to help you? What are the answers?

$$864 \div 8 = \square$$

$$249 \div 3 = \square$$

$$28 \times 7 = \square$$

$$56 \times 9 = \square$$

$$132 \times 4 = \square$$

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APPLY AND EXPLORE

Use known facts to explain the answers to these questions.

Question and answer	Explanation
Example: $0.8 \times 0.6 = 0.48$	<i>I know that 0.8 is ten times smaller than 8 and 0.6 is ten times smaller than 6. I know that $8 \times 6 = 48$ so the answer will be 10 x 10 times smaller than 48 which is 0.48.</i>
$6 \times 0.6 = 3.6$	<i>I know that</i>
$0.7 \times 7 = 4.9$	<i>I know that</i>
$0.05 \times 0.9 = 0.045$	<i>I know that</i>
$0.08 \times 3 = 0.24$	<i>I know that</i>

APPLY AND EXPLORE

Prove it: Are these children correct or incorrect? Explain how you know without using a formal written method.

