



THIRD SPACE
LEARNING

Can I use different methods to complete calculations?

Success Criteria

- I can use a range of strategies to multiply numbers
- I can evaluate the efficiency of the methods used



To know how to use different methods to complete calculations

In focus task

How many different methods could you use to solve this calculation?

$$6 \times 9 =$$



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How many different methods could you use to complete this calculation?

$$24 \times 9$$

Partitioning:

$$20 \times 9 + 4 \times 9$$

Using factors:

$$4 \times 6 \times 9$$

Related calculations:

$$24 \times 10 - 24$$

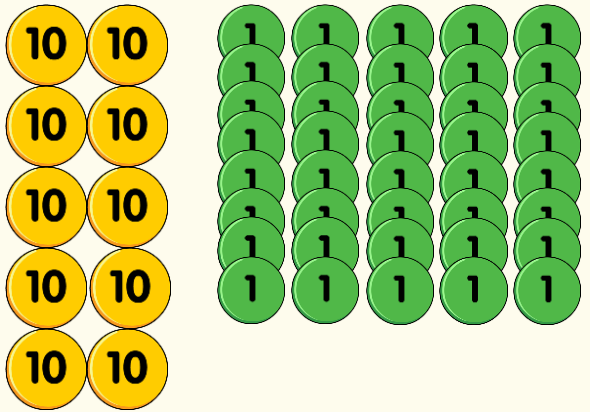
$$\text{OR } 25 \times 9 - 9$$

Answers

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Guided Practice:

Complete this calculation using the three different methods in the grid.

<p style="text-align: center;">28×5</p>	 <p>Partitioning</p> $20 \times 5 = 100$ $8 \times 5 = 40$ $100 + 40 = 140$
<p>Factor Pair</p> <p>The factors of 28 are 1, 2, 4, 7, 14 and 28.</p> $4 \times 7 \times 5$ $4 \times 5 = 20$ $20 \times 7 = 140$	<p>Related Calculations</p> $28 \times 10 = 280$ $280 \div 2 = 140$

Answers



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Independent Practice:

1. Solve these calculations using two different methods.

a. 21×6

b. 27×5

c. 19×7

d. 24×7

e. 23×5



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Guided Practice:

The astronaut calculates 26×6 using factor pairs.

$$2 \times 12 \times 6$$

$$12 \times 6 = 72$$

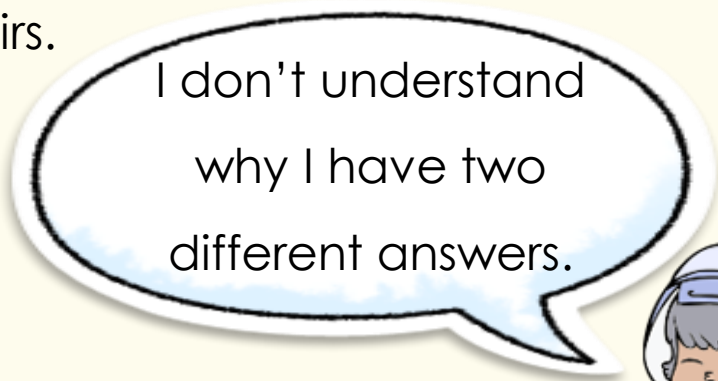
$$72 \times 2 = 144$$

She then checks it using partitioning.

$$20 \times 6 = 120$$

$$6 \times 6 = 36$$

$$120 + 36 = 156$$



Explain the mistake she has made.

The astronaut has not found the correct factors of 26. 2 and 13 are a factor pair of 26.

Answers



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Independent Practice:

2. Check these calculations using your preferred method.

a. $32 \times 6 = 180$

b. $35 \times 7 = 245$

c. $31 \times 8 = 248$

d. $44 \times 3 = 135$

e. $27 \times 9 = 316$




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Guided Practice:


The astronauts have all used a different method to solve 46×5 .

Their methods are all correct.


Which method is the most efficient? Why?



$40 \times 5 = 200$
 $6 \times 5 = 30$
 $200 + 30 = 230$



I will half 46 and double 5 to make 23×10 , which is the same as 46×5 .



$50 \times 5 = 250$
 $4 \times 5 = 20$
 $250 - 20 = 230$



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Independent Practice:

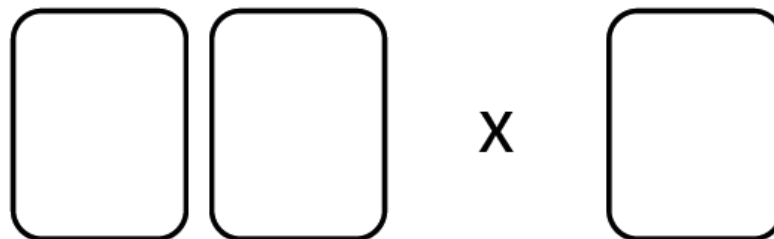
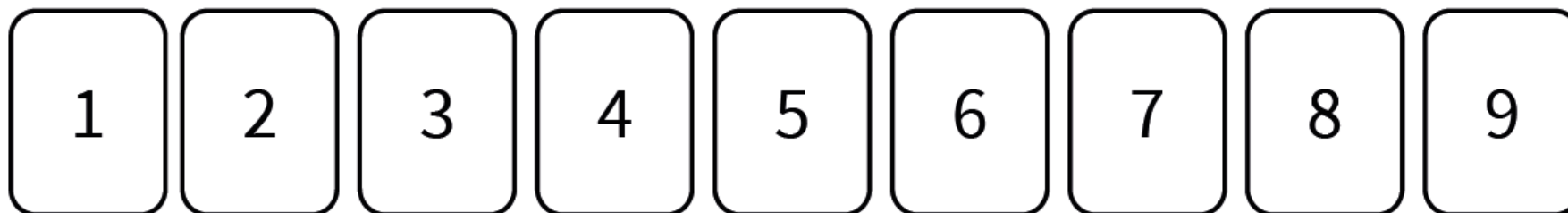
3. You will need a partner and a set of digit cards.

Select 3 digit cards.

Arrange them in the calculation.

Solve the calculation using your preferred method.

Compare the methods you have used and decide whose method is the most efficient.





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Light Bulb Challenge

Match the method to the question.

$$52 \times 5$$

$$52 \times 3$$

$$52 \times 4$$

$$52 \times 5 = 260$$

$$260 - 52 = 208$$

$$50 \times 3 = 150$$

$$2 \times 3 = 6$$

$$150 + 6 = 156$$

$$52 \times 5 = 260$$

$$260 + 52 = 312$$

$$52 \times 10 = 520$$

$$520 \div 2 = 260$$

Answers