LESSON MAKER PRO

Pick the Shortcut

Choose a method that makes each calculation easier.

GRADE 6 · 6.NOS.B.3.d

6.NOS.B.3.d "Determine and explain when a strategy or algorithm is most efficient."

NAME _____ DATE _____

CHOOSE YOUR METHOD

Before you calculate, look for numbers you can combine or change into easier numbers without changing the value. Regroup factors or use the distributive property when they help. If there is no clear shortcut, a written algorithm may be the best choice.

WORKED EXAMPLE

Find 36 * 25 using an efficient strategy.

1. Divide 36 by 4 to get 9.
2. Multiply 25 by 4 to get 100. Dividing one factor and multiplying the other by the same number keeps the product the same.
3. 36 * 25 = 9 * 100 = 900.

Answer: 900

PRACTICE 6 problems

1 Find 48 * 5. Choose an efficient strategy and explain why it helps.

ANSWER _____

2 Find 19 * 7. Choose an efficient strategy and explain why it helps.

ANSWER _____

3 Find 0.6 * 0.7. Choose an efficient strategy and explain how you placed the decimal point.

ANSWER _____

4 Find 3/5 * 15/16. Choose an efficient strategy and explain why it helps.

ANSWER _____

5 Find 7.8 + 2.2 + 3.5. Choose an efficient strategy and explain why it helps.

ANSWER _____

6 Find 42.73 - 17.86. Choose an efficient strategy and explain why it fits.

ANSWER _____

APPLY IT Show your work

1 At a school movie night, 24 friends each pay $2.50 for a ticket. What is the total cost? Explain an efficient way to find it.

WORK SPACE

ANSWER _____

2 A video creator posts 28 clips that are each 15 seconds long. How many minutes of video is that? Explain an efficient way to find out.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A gaming club makes 27 identical prize bundles. Each bundle has 39 blue tokens and 61 gold tokens. Find the total number of tokens in all the bundles using one multiplication. Explain why this is more efficient than finding the colors separately.

WORK SPACE AND ANSWER

ANSWER KEY

Pick the Shortcut

GRADE 6 · 6.NOS.B.3.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find 48 * 5. Choose an efficient strategy and explain why it helps.	**240; halve 48 and double 5 to make 24 * 10.**
2	Find 19 * 7. Choose an efficient strategy and explain why it helps.	**133; use (20 - 1) * 7 = 140 - 7.**
3	Find 0.6 * 0.7. Choose an efficient strategy and explain how you placed the decimal point.	**0.42; 6 tenths * 7 tenths = 42 hundredths.**
4	Find 3/5 * 15/16. Choose an efficient strategy and explain why it helps.	**9/16; simplify 15/5 to 3 before multiplying.**
5	Find 7.8 + 2.2 + 3.5. Choose an efficient strategy and explain why it helps.	**13.5; add 7.8 and 2.2 first to make 10.**
6	Find 42.73 - 17.86. Choose an efficient strategy and explain why it fits.	**24.87; a written subtraction algorithm keeps the decimal places aligned while regrouping.**

PART 2 · APPLY IT

1. **$60; halve 24 and double $2.50 to calculate 12 * $5.** Halving one factor and doubling the other keeps the product the same. Then 12 * $5 = $60.
2. **7 minutes; four 15-second clips make one minute, so 28 / 4 = 7.** Group the clips in sets of four because 4 * 15 seconds = 60 seconds. The 28 clips make 7 one-minute groups.

CHALLENGE

2,700 tokens; each bundle has 39 + 61 = 100 tokens, so 27 * 100 = 2,700. Adding within a bundle first avoids two separate multiplications.

Accept any correct strategy with a clear explanation of why it makes the calculation easier. For the challenge, the explanation must show one multiplication after combining the tokens in each bundle.