



Rewriting expressions to reveal relationships

GRADE 7 MATH

Name _____

Date _____

Do this on your own — the worked example shows what to do. Give the multiplier and say what it reveals. One skill: **rewriting expressions**.

WORKED EXAMPLE

Increase by $p\%$: multiply by $1 + p/100$. Decrease by $p\%$: multiply by $1 - p/100$. Chain changes by multiplying the factors. The multiplier tells you what fraction of the original remains.

1. Write “x increased by 50%” as a single multiplication.

FLUENCY

Show your thinking

Answer

2. Find the result when $x = 60$.

FLUENCY

Show your thinking

Answer

3. Write “x decreased by 40%” as a single multiplication.

FLUENCY

Show your thinking

Answer

4. Find the result when $x = 45$.

FLUENCY

Show your thinking

Answer

5. A price rises 50%, then is halved. Write this as one multiplication.

APPLICATION

Show your thinking

Answer

6. What does your multiplier from question 5 tell you about the final price compared with the start?

REASONING

Show your thinking

Answer

7. Apply it to a price of \$80.

APPLICATION

Show your thinking

Answer

8. Halving is a 50% decrease, and the rise was 50%. Explain why the price does not return to where it started.

REASONING

Show your thinking

Answer