

Using Inverse Operations



- ① Linda has a secret number. She doubles the number, adds 5, and then subtracts 7. Her result is 8.

What was her original secret number? 5

Explain what you did to find her secret number.

I added 7 to 8 to get 15, subtracted 5 to get 10, and found half of 10 to get 5.

For Problems 2–5, solve the equations using the inverse-operations strategy. Show all of your steps and check your work.

② $257 = a - 105$

$$257 + 105 = a - 105 + 105$$
$$362 = a$$

Check: $257 = 362 - 105$
 $257 = 257$

③ $12 = \frac{r}{4}$

$$12(4) = \left(\frac{r}{4}\right)(4)$$
$$48 = r$$

Check: $12 = \frac{48}{4}$
 $12 = 12$

④ $j + 3\frac{3}{4} = 8$

$$j + 3\frac{3}{4} - 3\frac{3}{4} = 8 - 3\frac{3}{4}$$
$$j = 4\frac{1}{4}$$

Check: $4\frac{1}{4} + 3\frac{3}{4} = 8$
 $8 = 8$

⑤ $6.72 = 4u$

$$6.72 / 4 = 4u / 4$$
$$1.68 = u$$

Check: $6.72 = 4(1.68)$
 $6.72 = 6.72$

Practice

Write a unit rate for each rate below.

⑥ 55 pages in 10 minutes 5.5 pages per minute

⑦ \$46.50 for 6 hours \$7.75 per hour