

Name \_\_\_\_\_

## Divide with 11 and 12

**Essential Question** What strategies can you use to divide with 11 and 12?

### UNLOCK the Problem REAL WORLD

Tara collects 60 postcards. She arranges them in 12 equal stacks. How many postcards are in each stack?

**Divide.**  $60 \div 12 = \blacksquare$

- Do you need to find the number of groups or the number in each group?

### One Way Use a multiplication table.

Since division is the inverse of multiplication, you can use a multiplication table to find a quotient.

Think of a related multiplication fact.

$$12 \times \blacksquare = 60$$

- Find the row for the factor 12.
- Look across to find the product, 60.
- Look up to find the unknown factor.
- The unknown factor is 5.

Since  $12 \times 5 = 60$ , then

$$60 \div 12 = \underline{\quad}$$

×	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

### Another Way Use repeated subtraction.

- Start with 60.
- Subtract 12 until you reach 0.
- Count the number of times you subtract 12.

$$\begin{array}{r}
 60 \\
 - 12 \\
 \hline
 48
 \end{array}
 \begin{array}{r}
 48 \\
 - 12 \\
 \hline
 36
 \end{array}
 \begin{array}{r}
 36 \\
 - 12 \\
 \hline
 24
 \end{array}
 \begin{array}{r}
 24 \\
 - 12 \\
 \hline
 12
 \end{array}
 \begin{array}{r}
 12 \\
 - 12 \\
 \hline
 0
 \end{array}$$

You subtracted 12 five times.

$$60 \div 12 = \underline{\quad}$$

So, there are 5 postcards in each stack.

#### Math Talk

What other strategies can you use to divide?

## Share and Show



1. Use the multiplication table on page P271 to find  $99 \div 11$ .

\_\_\_\_\_

Think: What is a related multiplication fact?

Find the unknown factor and quotient.

2.  $11 \times \blacksquare = 66$

$\blacksquare = \underline{\hspace{2cm}}$

$66 \div 11 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

3.  $2 \times \blacksquare = 24$

$\blacksquare = \underline{\hspace{2cm}}$

$24 \div 2 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

4.  $3 \times \blacksquare = 33$

$\blacksquare = \underline{\hspace{2cm}}$

$33 \div 3 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

5.  $12 \times \blacksquare = 72$

$\blacksquare = \underline{\hspace{2cm}}$

$72 \div 12 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

## On Your Own

Find the unknown factor and quotient.

6.  $11 \times \blacksquare = 55$

$\blacksquare = \underline{\hspace{2cm}}$

$55 \div 11 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

7.  $12 \times \blacksquare = 48$

$\blacksquare = \underline{\hspace{2cm}}$

$48 \div 12 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

8.  $8 \times \blacksquare = 96$

$\blacksquare = \underline{\hspace{2cm}}$

$96 \div 8 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

9.  $8 \times \blacksquare = 88$

$\blacksquare = \underline{\hspace{2cm}}$

$88 \div 8 = \blacksquare$

$\blacksquare = \underline{\hspace{2cm}}$

Find the quotient.

10.  $11 \div 11 = \underline{\hspace{2cm}}$

11.  $77 \div 7 = \underline{\hspace{2cm}}$

12.  $\underline{\hspace{2cm}} = 60 \div 12$

13.  $\underline{\hspace{2cm}} = 22 \div 11$

14.  $108 \div 9 = \underline{\hspace{2cm}}$

15.  $84 \div 12 = \underline{\hspace{2cm}}$

16.  $36 \div 3 = \underline{\hspace{2cm}}$

17.  $\underline{\hspace{2cm}} = 96 \div 12$

18.  $12 \div 12 = \underline{\hspace{2cm}}$

Compare. Write  $<$ ,  $>$ , or  $=$  for each  $\bigcirc$ .

19.  $96 \div 8 \bigcirc 96 \div 12$

20.  $77 \div 11 \bigcirc 84 \div 12$

21.  $99 \div 11 \bigcirc 84 \div 7$

## Problem Solving



22. Justin printed 44 posters to advertise the garage sale. He gave 11 friends the same number of posters to display around the neighborhood. How many posters did Justin give each friend?

\_\_\_\_\_