# Unit 5 · Unknowns, Patterns, and Two-Step Problems Cheat Sheet

**Unit 5 focus:** finding unknowns and multiplying by multiples of 10

## 1 Big Idea

An unknown can be in any spot of an equation. Use a related fact to find it. To multiply by a multiple of 10, multiply the tens.

## 2 Important Vocabulary

| | | |
|---|---|---|
| **unknown** | A number we do not know yet. It can be shown with a box or a letter. | 6 × □ = 42 |
| **equation** | A number sentence with an equal sign. | 4 × 9 = 36 |
| **variable** | A letter that stands for an unknown number. | n + 5 = 12, so n = 7 |
| **multiple of 10** | A number you get by multiplying by 10. | 10, 20, 30, …, 90 |

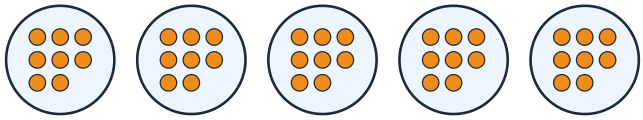
## 3 How It Works

Find 7 × 30.

**Example:** Think in tens
**30 = 3 tens:** 7 × 3 tens
**Multiply:** 21 tens
**Write:** 210

**Answer: 210**

## 4 Visual Model



5 × ? = 40: 5 groups of 8 make 40, so ? = 8.

## 5 Remember This · Watch Out!

**★ Remember this**

- 8 × ? = 48: think 48 ÷ 8.
- ? ÷ 3 = 5: think 3 × 5.
- 6 × 50 = 6 × 5 tens = 30 tens = 300.

**⚠ Watch out!**

- **? ÷ 3 = 5:** the ? is 15, not 5 ÷ 3
- **Zeros:** 4 × 50 = 200 (20 tens)

## 6 Try It!

1. n × 6 = 54. What is n?
   Answer: 6
2. 9 × 40 = ?
   Answer: 360

Answers are printed upside down. Turn the page to check!

# Unit 5 · Unknowns, Patterns, and Two-Step Problems Cheat Sheet

**More practice:** table patterns and two-step word problems

## 1 Big Idea

Patterns in the tables can be explained with properties. For two-step problems, plan both steps, write an equation with a letter, and estimate to check.

## 2 Important Vocabulary

| | | |
|---|---|---|
| **pattern** | Something that repeats or changes by a rule. | Products of 4 are all even |
| **even number** | A number that can be split into two equal groups (ends in 0, 2, 4, 6 or 8). | 14 |
| **odd number** | A number that has one left over when put in pairs (ends in 1, 3, 5, 7 or 9). | 15 |
| **two-step problem** | A word problem that takes two operations to solve. | 3 packs of 6, then 4 more |

## 3 How It Works

Ana has 4 packs of 6 cards and gives away 5 cards. How many are left?

**Example:** $(4 \times 6) - 5 = c$
**Step 1:** $4 \times 6 = 24$
**Step 2:** $24 - 5 = 19$
**Check:** about $25 - 5 = 20$

**Answer: 19 cards**

## 4 Visual Model

| + | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Doubles in the addition table are always even.

## 5 ★ Remember This · Watch Out!

**★ Remember this**

- Even + even = even. Odd + odd = even. Even + odd = odd.
- The letter stands for the answer to the question.

**⚠ Watch out!**

- **Stopping after step 1:** reread the question
- **Not checking:** estimate: is the answer close?

## 6 Try It!

1. $(5 \times 7) + 8 = m$. What is m?
   Answer: ɛ4
2. 30 marbles, lose 6, put the rest in 4 bags. How many per bag?
   Answer: 9

Answers are printed upside down. Turn the page to check!