



## Ratios & ratio language

**GRADE 6 MATH**

Answer keys for the exit ticket, practice worksheet, and homework, plus notes for the lesson slides. Each answer shows the steps and the most likely wrong answer (“If wrong”), so you can tell what a mistake means, not just that it is one. Questions go from **fluency** to **application** to **reasoning**.

### Exit Ticket — answer key

**Use:** End of the ratios lesson. 5–8 min, independent. One skill only — writing a ratio and using ratio language — so a low score is a clean signal on this skill.

**Timing:** 5–Item 4 separates part-to-part from part-to-whole.

#### 1. 4 red, 7 blue — red to blue? **FLUENCY**

Answer: **4:7 (4 to 7)**

1. Name them in the order asked: red first, blue second.
2. Red to blue = 4 to 7, written 4:7.

**If wrong:** Reversed the order to 7:4 — in ratio language the order must match the words (red to blue).

#### 2. 12 boys, 15 girls — girls to boys? **FLUENCY**

Answer: **15 to 12 (15:12)**

1. The question asks girls to boys, so girls first.
2. Girls to boys = 15 to 12.

**If wrong:** Wrote boys to girls (12:15) — didn’t follow the requested order.

#### 3. 2 cups flour for 3 eggs — flour to eggs? **APPLICATION**

Answer: **2:3; “for every 2 cups of flour there are 3 eggs”**

1. Flour first, eggs second: 2 to 3.
2. In words: for every 2 cups of flour, 3 eggs.

**If wrong:** Reversed to 3:2, or dropped the flour-to-egg order when describing it.

#### 4. 6 wins, 4 losses — wins to games played? REASONING

Answer: **No. Wins to games played = 6:10 (not 6:4)**

1. Games played = wins + losses =  $6 + 4 = 10$ .
2. Wins to games played is part-to-whole: 6 to 10.
3. 6:4 is wins to losses (part-to-part) — a different comparison.

**If wrong:** Confused part-to-part (wins:losses = 6:4) with part-to-whole (wins:games = 6:10) — didn't add to find the whole.

**Quick answers** for fast checking:

| # | Level       | Answer                |
|---|-------------|-----------------------|
| 1 | fluency     | <b>4:7</b>            |
| 2 | fluency     | <b>15:12</b>          |
| 3 | application | <b>2:3</b>            |
| 4 | reasoning   | <b>6:10 (not 6:4)</b> |

### Practice Worksheet — answer key

**Use:** During the lesson after the mini-lesson/deck. The ramp (write → describe → reason) shows exactly where understanding breaks.

**Timing:** 15–25 min · pairs or independent · circulate on items 7–9 (reasoning). Items 1–3 fluency, 4–6 application, 7–9 reasoning. Items 6 & 8 target part-to-whole vs part-to-part.

#### 1. 5 cats, 3 dogs — cats to dogs? FLUENCY

Answer: **5:3**

1. Cats first, dogs second: 5 to 3.

**If wrong:** Reversed to 3:5.

#### 2. 8 pencils, 6 erasers — erasers to pencils? FLUENCY

Answer: **6:8 (6 to 8)**

1. Erasers first (asked first): 6 to 8.

**If wrong:** Wrote pencils to erasers (8:6) — wrong order.

### 3. 7 red, 9 green — red to green? **FLUENCY**

Answer: **7:9**

1. Red first: 7:9.

**If wrong:** Reversed to 9:7.

### 4. 10 cars, 4 trucks — cars to trucks? **APPLICATION**

Answer: **10:4; “for every 10 cars there are 4 trucks”**

1. Cars first, trucks second: 10 to 4.
2. In words: for every 10 cars, 4 trucks.

**If wrong:** Reversed it, or changed the numbers — here we write the ratio as it appears and describe it in order.

### 5. 3 bananas per 2 milk — both orders? **APPLICATION**

Answer: **bananas:milk = 3:2; milk:bananas = 2:3**

1. Bananas to milk = 3 to 2.
2. Milk to bananas flips the order = 2 to 3.

**If wrong:** Gave the same ratio for both — didn't flip the order when the comparison flipped.

### 6. 14 students, 8 wear glasses — glasses to whole class? **APPLICATION**

Answer: **8:14**

1. Whole class = 14.
2. Glasses to whole class is part-to-whole: 8 to 14.

**If wrong:** Wrote 8:6 (glasses to non-glasses) — that's part-to-part, not to the whole.

### 7. 9 forks, 6 spoons — two ways? **REASONING**

Answer: **9:6; “9 forks to 6 spoons”; “for every 9 forks there are 6 spoons”**

1. Forks first: 9 to 6.
2. Describe two ways: “9 forks to 6 spoons” and “for every 9 forks, 6 spoons.”

**If wrong:** Only gave the colon form, or changed the order between the two descriptions.

### 8. 4 pretzels, 6 nuts — pretzels to whole mix? REASONING

Answer: **Whole = 10, so pretzels to whole = 4:10 (4:6 is pretzels to nuts)**

1. Whole mix =  $4 + 6 = 10$  cups.
2. Pretzels to the whole = 4 to 10.
3. 4:6 compares pretzels to nuts (part-to-part), not to the whole.

**If wrong:** Used nuts as the “whole” — confused part-to-part with part-to-whole; didn’t add for the total.

### 9. roses:tulips = 5 to 8 — more roses? REASONING

Answer: **No — for every 5 roses there are 8 tulips, so there are more tulips**

1. 5 to 8 means 5 roses for every 8 tulips.
2. Since  $8 > 5$ , tulips outnumber roses.

**If wrong:** Read the first number as “the bigger group,” ignoring what the ratio compares.

**Quick answers** for fast checking:

| # | Level       | Answer             |
|---|-------------|--------------------|
| 1 | fluency     | <b>5:3</b>         |
| 2 | fluency     | <b>6:8</b>         |
| 3 | fluency     | <b>7:9</b>         |
| 4 | application | <b>10:4</b>        |
| 5 | application | <b>3:2 and 2:3</b> |
| 6 | application | <b>8:14</b>        |
| 7 | reasoning   | <b>9:6</b>         |
| 8 | reasoning   | <b>4:10</b>        |
| 9 | reasoning   | <b>more tulips</b> |

## Homework — answer key

**Use:** Parallels the practice sheet one-to-one, reinforcing without re-teaching. The on-sheet worked example makes it independent.

**Timing:** ~15 min at home · independent · review item 8 (part-to-whole) as the next-day warm-up.

**1. 6 apples, 4 bananas — apples to bananas?** **FLUENCY**

Answer: **6:4**

1. Apples first: 6 to 4.

**If wrong:** Reversed to 4:6.

**2. 9 stickers, 12 stamps — stamps to stickers?** **FLUENCY**

Answer: **12:9**

1. Stamps first (asked first): 12 to 9.

**If wrong:** Wrote stickers to stamps (9:12) — wrong order.

**3. 5 quarters, 8 dimes — quarters to dimes?** **FLUENCY**

Answer: **5:8**

1. Quarters first: 5:8.

**If wrong:** Reversed to 8:5.

**4. 15 novels, 5 comics — novels to comics?** **APPLICATION**

Answer: **15:5; “for every 15 novels there are 5 comics”**

1. Novels first: 15 to 5.

2. In words: for every 15 novels, 5 comics.

**If wrong:** Reversed it, or changed the numbers — write it as named and describe in order.

**5. 4 raisins per 3 peanuts — both orders?** **APPLICATION**

Answer: **raisins:peanuts = 4:3; peanuts:raisins = 3:4**

1. Raisins to peanuts = 4 to 3.

2. Flip for peanuts to raisins = 3 to 4.

**If wrong:** Gave the same ratio for both orders.

### 6. 11 players, 3 goalies — goalies to whole team? APPLICATION

Answer: **3:11**

1. Whole team = 11.
2. Goalies to whole team is part-to-whole: 3 to 11.

**If wrong:** Wrote 3:8 (goalies to non-goalies) — part-to-part, not to the whole.

### 7. 8 markers, 10 crayons — two ways? REASONING

Answer: **8:10; “8 markers to 10 crayons”; “for every 8 markers there are 10 crayons”**

1. Markers first: 8 to 10.
2. Describe two ways using ‘to’ and ‘for every,’ keeping the order.

**If wrong:** Only one form, or changed the order between descriptions.

### 8. 7 apples, 5 pears — apples to all the fruit? REASONING

Answer: **Whole = 12, so apples to all = 7:12 (7:5 is apples to pears)**

1. All the fruit =  $7 + 5 = 12$ .
2. Apples to the whole = 7 to 12.
3. 7:5 compares apples to pears (part-to-part).

**If wrong:** Used pears as the “whole” — part-to-part vs part-to-whole; didn’t add for the total.

**Quick answers** for fast checking:

| # | Level       | Answer             |
|---|-------------|--------------------|
| 1 | fluency     | <b>6:4</b>         |
| 2 | fluency     | <b>12:9</b>        |
| 3 | fluency     | <b>5:8</b>         |
| 4 | application | <b>15:5</b>        |
| 5 | application | <b>4:3 and 3:4</b> |
| 6 | application | <b>3:11</b>        |
| 7 | reasoning   | <b>8:10</b>        |
| 8 | reasoning   | <b>7:12</b>        |

## Lesson slides — teaching notes & timing

Mini-lesson deck: ~12–15 min, then launch into the practice sheet. Slide numbers match the deck.

| Slide | ~Time | Note                                                                                                                                  |
|-------|-------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1/8   | 0:00  | Frame the single skill: today we write a ratio and describe it in words. Keep it short.                                               |
| 2/8   | 1:00  | Hook — don't resolve yet. Let pairs propose ways to compare (3 and 5, '3 for every 5'). Surface that order and labels matter.         |
| 3/8   | 3:00  | Name the idea: a ratio compares two quantities; three notations (to / : / 'for every'). Order follows the words.                      |
| 4/8   | 5:00  | WE1 — model naming red first, then blue. Say the 'for every' sentence aloud.                                                          |
| 5/8   | 7:00  | WE2 — the key distinction: part-to-part vs part-to-whole. To get the whole, ADD the parts ( $6+4=10$ ). This is the #1 misconception. |
| 6/8   | 9:00  | CFU — all-student response (thumbs/whiteboards). Answer 5:3. Watch for reversed order.                                                |
| 7/8   | 11:00 | Resolve the hook: apples to oranges = 3:5. Re-emphasize order = the order you name them.                                              |
| 8/8   | 13:00 | Launch the in-class practice sheet.                                                                                                   |