

# Fraction Landmark Quest

Use 0,  $\frac{1}{2}$ , and 1 to compare fractions and mixed numbers.

**GRADE 4 • 4.NS.3.c**

**4.NS.3.c** "Use benchmarks (e.g., 0,  $\frac{1}{2}$ , or 1) to compare and order no more than four fractions (proper or improper), and/or mixed numbers, with like and unlike denominators of 12 or less. Justify comparisons orally, in writing, or with a model.\*"

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## USE FRACTION LANDMARKS

Use 0,  $\frac{1}{2}$ , and 1 as landmarks. First decide which landmark each fraction or mixed number is near or passes, then compare numbers in the same region by making equal-sized parts.

## WORKED EXAMPLE

Order  $\frac{3}{8}$ ,  $1\frac{3}{5}$ , and  $\frac{1}{5}$  from least to greatest.

1.  $\frac{1}{5}$  and  $\frac{3}{8}$  are less than  $\frac{1}{2}$ .  $1\frac{3}{5}$  is greater than 1.
2.  $\frac{1}{5} = \frac{8}{40}$ .
3.  $\frac{3}{8} = \frac{15}{40}$ .
4.  $\frac{8}{40} < \frac{15}{40}$ , so  $\frac{1}{5} < \frac{3}{8} < 1\frac{3}{5}$ .

**Answer:  $\frac{1}{5} < \frac{3}{8} < 1\frac{3}{5}$**

## PRACTICE 6 problems

**1** Write  $<$ ,  $>$ , or  $=$ .  $\frac{4}{11}$  \_\_\_\_  $\frac{1}{2}$

**ANSWER** \_\_\_\_\_

**2** Write  $<$ ,  $>$ , or  $=$ .  $\frac{9}{7}$  \_\_\_\_ 1

**ANSWER** \_\_\_\_\_

**3** Order  $\frac{3}{4}$ ,  $\frac{5}{12}$ , and  $\frac{2}{3}$  from least to greatest. Then show why  $\frac{2}{3}$  and  $\frac{3}{4}$  are in that order.

**ANSWER** \_\_\_\_\_

**4** Order  $1\frac{1}{6}$ ,  $\frac{11}{12}$ , and  $1\frac{1}{3}$  from least to greatest.

**ANSWER** \_\_\_\_\_

**5** Write  $<$ ,  $>$ , or  $=$ .  $\frac{4}{9}$  \_\_\_\_  $\frac{1}{2}$

**ANSWER** \_\_\_\_\_

**6** Order  $\frac{7}{10}$ ,  $\frac{13}{12}$ ,  $\frac{1}{4}$ , and  $\frac{1}{2}$  from least to greatest.

**ANSWER** \_\_\_\_\_

## APPLY IT Show your work

- 1** At game club, Rina tested a game level for  $\frac{5}{8}$  hour, Theo tested for  $1\frac{1}{6}$  hours, and Mei tested for  $\frac{3}{4}$  hour. Order the testing times from least to greatest.

WORK SPACE

ANSWER \_\_\_\_\_

- 2** Four students recorded practice times for a talent-show act. Zara practiced  $1\frac{1}{6}$  hours, Eli practiced  $\frac{7}{8}$  hour, Noor practiced  $1\frac{1}{4}$  hours, and Ben practiced  $\frac{5}{6}$  hour. Order the times from closest to 1 hour to farthest from 1 hour. Show any tie.

WORK SPACE

ANSWER \_\_\_\_\_

## CHALLENGE One step up

### CHALLENGE

Order  $1\frac{2}{7}$ ,  $\frac{9}{10}$ ,  $\frac{2}{3}$ , and  $1\frac{1}{8}$  from closest to 1 to farthest from 1. Explain by comparing each number's distance from 1.

---

---

## PART 1 • PRACTICE

| # | PROBLEM                                                                                                   | ANSWER                                                                                                                         |
|---|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 1 | Write $<$ , $>$ , or $=$ . $4/11$ ____ $1/2$                                                              | <b><math>4/11 &lt; 1/2</math></b>                                                                                              |
| 2 | Write $<$ , $>$ , or $=$ . $9/7$ ____ $1$                                                                 | <b><math>9/7 &gt; 1</math></b>                                                                                                 |
| 3 | Order $3/4$ , $5/12$ , and $2/3$ from least to greatest. Then show why $2/3$ and $3/4$ are in that order. | <b><math>5/12 &lt; 2/3 &lt; 3/4</math>; <math>2/3 = 8/12</math> and <math>3/4 = 9/12</math>, so <math>2/3 &lt; 3/4</math>.</b> |
| 4 | Order $1\ 1/6$ , $11/12$ , and $1\ 1/3$ from least to greatest.                                           | <b><math>11/12 &lt; 1\ 1/6 &lt; 1\ 1/3</math></b>                                                                              |
| 5 | Write $<$ , $>$ , or $=$ . $4/9$ ____ $1/2$                                                               | <b><math>4/9 &lt; 1/2</math></b>                                                                                               |
| 6 | Order $7/10$ , $13/12$ , $1/4$ , and $1/2$ from least to greatest.                                        | <b><math>1/4 &lt; 1/2 &lt; 7/10 &lt; 13/12</math></b>                                                                          |

## PART 2 • APPLY IT

- $5/8 < 3/4 < 1\ 1/6$**  Both  $5/8$  and  $3/4$  are less than 1, while  $1\ 1/6$  is greater than 1. Also,  $3/4 = 6/8$ , so  $5/8 < 3/4$ .
- $7/8$ , then  $1\ 1/6$  and  $5/6$ , then  $1\ 1/4$**  The distances from 1 hour are  $1/6$  for  $1\ 1/6$ ,  $1/8$  for  $7/8$ ,  $1/4$  for  $1\ 1/4$ , and  $1/6$  for  $5/6$ . Since  $1/8 < 1/6 < 1/4$ ,  $7/8$  is closest,  $1\ 1/6$  and  $5/6$  tie, and  $1\ 1/4$  is farthest.

## CHALLENGE

**$9/10$ ,  $1\ 1/8$ ,  $1\ 2/7$ ,  $2/3$ . Their distances from 1 are  $1/10$ ,  $1/8$ ,  $2/7$ , and  $1/3$ . Since  $1/10 < 1/8 < 2/7 < 1/3$ , this is the order.**

Accept equivalent fractions and correct comparison statements that justify an order. In the second word problem, accept either order for the tied values  $1\ 1/6$  and  $5/6$ .