



SKILL 14: Estimating Quotients

You can round to estimate quotients of fractions and mixed numbers.

- Round each factor to the nearest whole number.
- Divide the whole numbers.

Example

Estimate: $9\frac{7}{16} \div 2\frac{2}{3}$.

Compare each fraction to $\frac{1}{2}$.

$$\frac{7}{16} < \frac{1}{2}$$

$$\frac{2}{3} \geq \frac{1}{2}$$

Round each fraction to either 0 or 1.

$$\frac{7}{16} \text{ rounds to } 0.$$

$$\frac{2}{3} \text{ rounds to } 1.$$

Add the rounded fraction to the whole number.

$$9 + 0 = 9$$

$$2 + 1 = 3$$

Divide.

$$9 \div 3 = 3$$

So, $9\frac{7}{16} \div 2\frac{2}{3}$ is about 3.

Guided Practice

1. Estimate: $12\frac{3}{14} \div 3\frac{7}{8}$.

a. Round each fraction to either 0 or 1. $\frac{3}{14} \rightarrow$ _____ $\frac{7}{8} \rightarrow$ _____

b. Round each mixed number. $12\frac{3}{14} \rightarrow 12 +$ _____ $=$ _____

$3\frac{7}{8} \rightarrow 3 +$ _____ $=$ _____

c. Divide. _____ \div _____ $=$ _____

2. Estimate: $1\frac{2}{3} \div \frac{3}{4}$. Estimate each quotient.

a. Round to the nearest whole number. $1\frac{2}{3} \rightarrow$ _____; $\frac{3}{4} \rightarrow$ _____

b. Divide. _____ \div _____ $=$ _____

Estimate each quotient. Show your rounded numbers.

3. $14\frac{7}{8} \div 5\frac{2}{5}$ _____ \div _____ $=$ _____

4. $75\frac{5}{24} \div 24\frac{17}{30}$ _____ \div _____ $=$ _____

5. $\frac{7}{8} \div \frac{5}{6}$ _____ \div _____ $=$ _____

6. $1\frac{1}{4} \div \frac{9}{10}$ _____ \div _____ $=$ _____

7. $2\frac{1}{4} \div \frac{7}{10}$ _____ \div _____ $=$ _____

8. $\frac{7}{9} \div \frac{3}{4}$ _____ \div _____ $=$ _____

9. $6\frac{4}{5} \div 1\frac{1}{3}$ _____ \div _____ $=$ _____

10. $9\frac{1}{8} \div 2\frac{7}{9}$ _____ \div _____ $=$ _____

11. $7\frac{11}{12} \div 3\frac{5}{6}$ _____ \div _____ $=$ _____

12. $8\frac{1}{5} \div 1\frac{2}{3}$ _____ \div _____ $=$ _____

Name _____

Date _____

Class _____

SKILL 14: Practice

Estimate each quotient.

1. $6\frac{3}{1} \div 2\frac{7}{1}$ _____

4. $7\frac{5}{2} \div 2\frac{3}{2}$ _____

7. $7\frac{8}{5} \div \frac{5}{3}$ _____

8. $8\frac{2}{2} \div 3\frac{5}{5}$ _____

9. $6\frac{1}{4} \div 1\frac{5}{5}$ _____

11. $2\frac{1}{2} \div 3\frac{4}{4}$ _____

12. $8\frac{7}{7} \div 3\frac{9}{9}$ _____

14. $8\frac{3}{2} \div 4\frac{3}{1}$ _____

15. $7\frac{5}{2} \div \frac{2}{1}$ _____

17. $9\frac{4}{3} \div 1\frac{6}{5}$ _____

18. $10\frac{9}{1} \div 5\frac{6}{1}$ _____

20. $3\frac{10}{7} \div 1\frac{8}{8}$ _____

21. $12\frac{5}{4} \div 6\frac{2}{1}$ _____

23. $11\frac{4}{3} \div 1\frac{7}{5}$ _____

24. $10\frac{6}{1} \div 6\frac{3}{3}$ _____

26. $3\frac{4}{3} \div 3\frac{7}{7}$ _____

27. $13\frac{4}{3} \div 7\frac{2}{1}$ _____

1. $6\frac{3}{1} \div 2\frac{7}{1}$ _____

4. $7\frac{5}{2} \div 2\frac{3}{2}$ _____

7. $7\frac{8}{5} \div \frac{5}{3}$ _____

8. $8\frac{2}{2} \div 3\frac{5}{5}$ _____

9. $6\frac{1}{4} \div 1\frac{5}{5}$ _____

11. $2\frac{1}{2} \div 3\frac{4}{4}$ _____

12. $8\frac{7}{7} \div 3\frac{9}{9}$ _____

14. $8\frac{3}{2} \div 4\frac{3}{1}$ _____

15. $7\frac{5}{2} \div \frac{2}{1}$ _____

17. $9\frac{4}{3} \div 1\frac{6}{5}$ _____

18. $10\frac{9}{1} \div 5\frac{6}{1}$ _____

20. $3\frac{10}{7} \div 1\frac{8}{8}$ _____

21. $12\frac{5}{4} \div 6\frac{2}{1}$ _____

23. $11\frac{4}{3} \div 1\frac{7}{5}$ _____

24. $10\frac{6}{1} \div 6\frac{3}{3}$ _____

26. $3\frac{4}{3} \div 3\frac{7}{7}$ _____

27. $13\frac{4}{3} \div 7\frac{2}{1}$ _____

28. There are $2\frac{4}{1}$ gallons of gasoline in a car's gas tank. The car can travel $20\frac{7}{2}$ miles on a gallon of gasoline. a. Can the car be driven 63 miles without stopping for more gasoline? b. Why or why not?



29. Estimate: $10\frac{1}{3} \div 2\frac{5}{2}$

- A 3 B 4 C 5 D 7

Skill 14

30. Multiply: $2\frac{5}{2} \times 3\frac{1}{2}$

- F $6\frac{1}{5}$ G $6\frac{2}{5}$ H $8\frac{2}{5}$ J $8\frac{4}{5}$

Skill 12