

Grade 5 • Unit 6 Worksheet

More Decimal and Fraction Operations

Name: _____

Date: _____

Part A • Powers of 10 and Conversions

1. Fill in each blank.

$10 \times 10 \times 10 = \underline{\hspace{2cm}} = 10 \text{ to the power } \underline{\hspace{2cm}}$

$10 \times 10 \times 10 \times 10 = \underline{\hspace{2cm}} = 10 \text{ to the power } \underline{\hspace{2cm}}$

$100,000 = 10 \text{ to the power } \underline{\hspace{2cm}}$

What pattern do you see between the EXPONENT and the number of zeros?

2. Convert each measurement.

a. 5 meters = $\underline{\hspace{2cm}}$ centimeters

b. 3.2 kilometers = $\underline{\hspace{2cm}}$ meters

c. 850 milliliters = $\underline{\hspace{2cm}}$ liters

d. 0.04 kilogram = $\underline{\hspace{2cm}}$ grams

When converting from a LARGER unit to a SMALLER unit, do you multiply or divide? Why?

Part B • Add and Subtract Fractions with Unlike Denominators

3. Find $\frac{1}{2} + \frac{1}{3}$.

Find a common denominator: $\underline{\hspace{2cm}}$

Rewrite: $\frac{1}{2} = \underline{\hspace{2cm}} / \underline{\hspace{2cm}}$; $\frac{1}{3} = \underline{\hspace{2cm}} / \underline{\hspace{2cm}}$

Add: $\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Why do you need a COMMON DENOMINATOR before you add?

4. Find each.

a. $\frac{2}{3} + \frac{1}{4} = \underline{\hspace{2cm}}$

b. $\frac{5}{6} - \frac{2}{3} =$ _____

c. $3\text{ and } \frac{1}{2} - 1\text{ and } \frac{3}{4} =$ _____

5. Diego adds $\frac{1}{3} + \frac{1}{4}$ like this: ' $1+1=2$ and $3+4=7$, so the answer is $\frac{2}{7}$.'

Is Diego right? Yes / No

What is the correct answer? _____

What is the error?

Part C • Multiplication as Scaling

6. Without computing, for each expression decide whether the product is greater than, less than, or equal to the first factor 24.

a. $24 \times \frac{1}{3}$ _____ 24

b. $24 \times \frac{5}{4}$ _____ 24

c. $24 \times \frac{3}{3}$ _____ 24

d. $24 \times \frac{7}{8}$ _____ 24

How can you decide just by looking at the second factor?

7. Pat ran 4 miles. Sam ran $4 \times \frac{3}{4}$ miles.

Who ran farther? _____

Explain WITHOUT computing how far Sam ran:

Now find how far Sam ran exactly: _____ miles

Part D • Line Plots and Story Problems

8. Some plant heights (in inches) were measured: $2\text{ and } \frac{1}{2}$, $2\text{ and } \frac{3}{4}$, 3, $2\text{ and } \frac{1}{2}$, 3 and $\frac{1}{4}$, $2\text{ and } \frac{3}{4}$, 3, 3 and $\frac{1}{2}$, $2\text{ and } \frac{1}{2}$.

Make a line plot below using a number line from 2 to 4 with marks at fourths:

What is the MOST common height? _____ inches

If you put ALL the plants end to end, what would the total height be? _____ inches

9. A recipe calls for $\frac{2}{3}$ cup of flour. Mai wants to make 1 and $\frac{1}{2}$ times the recipe.

Expression: _____ x _____

How much flour will she need? _____ cups

Show your work:

Part E • Thinking Deeply

10. Sara says: 'Multiplying always makes things bigger.' Give TWO examples that show Sara is wrong.

Example 1:

Example 2:

When DOES multiplication make things bigger?

11. Without finding the exact value, predict whether $\frac{7}{8} \times \frac{6}{5}$ is greater than, less than, or equal to $\frac{7}{8}$. Explain your reasoning.

Prediction: _____

12. Han claims: '5 km = 5000 m, so 5.2 km = 5200 m. The decimal moves THREE places to the right.' Is Han right? Explain by referring to place value or to the conversion factor (1 km = 1000 m).
