

Name: *Ref*

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples
<b>Multiplying Fractions</b>	① Write all mixed numbers as improper fractions.
	② Simplify up and down and along the diagonals (if possible).
	③ Multiply the numerators to get the new numerator. Multiply the denominators to get the new denominator.
	④ Simplify (if needed).
<b>Examples</b>	1. $\frac{1}{2} \times \frac{2}{5} = \frac{2}{10} = \frac{1}{5}$
	2. $\frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$
	3. $\frac{1}{7} \cdot -\frac{1}{5} = -\frac{1}{35}$
	4. $2\frac{1}{5} \cdot 1\frac{2}{3}$ $\frac{11}{5} \cdot \frac{5}{3} = \frac{11}{3} = 3\frac{2}{3}$
	5. $-1\frac{1}{3} \cdot \frac{1}{2}$ $-\frac{4}{3} \cdot \frac{1}{2} = -\frac{2}{3}$
	6. $-\frac{2}{3} \cdot -2\frac{4}{5}$ $-\frac{2}{3} \cdot -\frac{14}{5} = \frac{28}{15}$ $1\frac{13}{15}$
<b>Dividing Fractions</b>	① Write all mixed numbers as improper fractions.
	② Change to multiplication and FLIP the second fraction to its reciprocal (KISS!)
	③ Multiply the numerators to get the new numerator. Multiply the denominators to get the new denominator.
	④ Simplify (if needed).

## Examples

$$7. \frac{1}{6} \div \frac{1}{5}$$

$$\frac{1}{6} \cdot \frac{5}{1} = \frac{5}{6}$$

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

$$\frac{3}{4} \cdot -\frac{2}{1} = -\frac{3}{2}$$

$$= -1\frac{1}{2}$$

$$9. -\frac{4}{7} \div \frac{8}{9}$$

$$-\frac{4}{7} \cdot \frac{9}{8} = \frac{9}{14}$$

$$10. 2\frac{1}{10} \div -2\frac{4}{5}$$

$$\frac{21}{10} \div -\frac{14}{5}$$

$$\frac{21}{10} \cdot -\frac{5}{14} = -\frac{3}{4}$$

$$11. -4\frac{2}{7} \div 1\frac{1}{3}$$

$$-\frac{30}{7} \div \frac{4}{3}$$

$$-\frac{30}{7} \cdot \frac{3}{4} = -\frac{45}{14} = -3\frac{3}{14}$$

$$12. 2\frac{3}{4} \div 5$$

$$\frac{11}{4} \div \frac{5}{1}$$

$$\frac{11}{4} \cdot \frac{1}{5} = \frac{11}{20}$$

## Applications

13. The Statue of Liberty is 305 feet tall. A nearby building is  $\frac{4}{9}$  as tall. Find the height of the building. *multiply*

$$\frac{305}{1} \cdot \frac{4}{9} = \frac{1220}{9} = 135\frac{5}{9} \text{ ft}$$

14. Sarah has  $27\frac{3}{4}$  feet of wire to make bead necklaces. If each necklace

requires  $1\frac{2}{3}$  feet of wire, how many necklaces can she make?

$$27\frac{3}{4} \div 1\frac{2}{3}$$

$$\frac{111}{4} \div \frac{5}{3}$$

$$\frac{111}{4} \cdot \frac{3}{5} = \frac{333}{20} = 16\frac{13}{20}$$

16 necklaces

Summary: \_\_\_\_\_

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