

Mixed Number Multiplication and Division

Multiplication

$$\text{Ex 1} \quad 2\frac{1}{2} \times 2\frac{1}{2}$$

$$= \frac{5}{2} \times \frac{5}{2}$$

$$= \frac{5 \times 5}{2 \times 2}$$

$$= \frac{25}{4}$$

$$= 6\frac{1}{4}$$

$$\text{Ex 2} \quad 2\frac{1}{4} \times 1\frac{2}{3}$$

$$= \overset{3}{\cancel{9}}\frac{4}{4} \times \frac{5}{\cancel{3}}$$

$$= \frac{3 \times 5}{4 \times 1}$$

$$= \frac{15}{4}$$

$$= 3\frac{3}{4}$$

1. Change mixed numbers into improper fractions
 2. Cancel if possible
 3. Multiply numerators and multiply denominators
 4. Change back to a mixed number
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Exercise

$$1) \quad 3\frac{3}{4} \times 1\frac{4}{5}$$

$$= \overset{3}{\cancel{12}}\frac{9}{4} \times \frac{\cancel{4}}{5}$$

$$= \frac{3 \times 9}{4 \times 1}$$

$$= \frac{27}{4}$$

$$= 6\frac{3}{4}$$

$$2) \quad 2\frac{2}{3} \times 2\frac{1}{4}$$

$$= \overset{2}{\cancel{4}}\frac{2}{3} \times \frac{\cancel{4}}{4} \overset{3}{3}$$

$$= \frac{2 \times 3}{1 \times 1}$$

$$= 6$$

$$3) \quad 2\frac{4}{7} \times 1\frac{1}{3}$$

$$= \frac{18}{7} \times \frac{4}{3}$$

$$= \frac{6 \times 4}{7 \times 1}$$

$$= \frac{24}{7}$$

$$= 3\frac{3}{7}$$

$$4) \quad 1\frac{3}{5} \times 2\frac{1}{7}$$

$$= \frac{8}{5} \times \frac{15}{7}$$

$$= \frac{8 \times 3}{1 \times 7}$$

$$= \frac{24}{7}$$

$$= 3\frac{3}{7}$$

Division

$$\text{Ex1} \quad 6\frac{1}{4} \div 2\frac{1}{2}$$

$$= \frac{25}{4} \div \frac{5}{2}$$

$$= \frac{5}{4} \times \frac{2}{1}$$

$$= \frac{5 \times 1}{2 \times 1}$$

$$= \frac{5}{2}$$

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

$$\text{Ex2} \quad 3\frac{3}{4} \div 1\frac{2}{3}$$

$$= \frac{15}{4} \div \frac{5}{3}$$

$$= \frac{3}{4} \times \frac{3}{1}$$

$$= \frac{3 \times 3}{4 \times 1}$$

$$= \frac{9}{4}$$

$$= 2\frac{1}{4}$$

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1. Convert mixed number to improper fractions
 2. Turn the fraction you are dividing by upside down and change to multiplication

3. Cancel if possible

4. Multiply numerators and multiply denominators

5. Change back to a mixed number

NEVER CANCEL WHEN THERE IS A DIVISION SIGN - ONLY WHEN THERE IS A MULTIPLICATION SIGN

Exercise

$$1) \quad 6\frac{3}{4} \div 1\frac{4}{5}$$

$$= \frac{27}{4} \div \frac{9}{5}$$

$$= \frac{27}{4} \times \frac{5}{9}$$

$$= \frac{3 \times 5}{4 \times 1}$$

$$= \frac{15}{4}$$

$$= 3\frac{3}{4}$$

$$2) \quad 6 \div 2\frac{1}{4}$$

$$= \frac{6}{1} \div \frac{9}{4}$$

$$= \frac{6}{1} \times \frac{4}{9}$$

$$= \frac{2 \times 4}{1 \times 3}$$

$$= \frac{8}{3}$$

$$= 2\frac{2}{3}$$

$$3) \quad 3\frac{3}{7} \div 1\frac{1}{3}$$

$$= \frac{24}{7} \div \frac{4}{3}$$

$$= \frac{24}{7} \times \frac{3}{4}$$

$$= \frac{6 \times 3}{7 \times 1}$$

$$= \frac{18}{7}$$

$$4) \quad 3\frac{3}{7} \div 2\frac{1}{5}$$

$$= \frac{24}{7} \div \frac{15}{5}$$

$$= \frac{24}{7} \times \frac{1}{5}$$

$$= \frac{8 \times 1}{1 \times 5}$$

$$= 2\frac{4}{7}$$

$$= \frac{8}{5}$$

$$= 1\frac{3}{5}$$
