

3.2 Adding Rational Numbers

- Adding integers with the SAME signs, ADD and KEEP the sign.

Ex 1: $(-14) + (-5) = -19$

$$\begin{array}{r} 14 \\ + 5 \\ \hline 19 \end{array}$$

Ex 2: $23 + 15 = 38$

- Adding integers with DIFFERENT signs, SUBTRACT and take the sign of the LARGER digit.

Ex 3: $(-14) + 5 = -9$

$$\begin{array}{r} 14 \\ - 5 \\ \hline 9 \end{array}$$

Ex 4: $(-5) + 17 = 12$

$$\begin{array}{r} 17 \\ - 5 \\ \hline 12 \end{array}$$

- Adding fractions you need COMMON DENOMINATORS.

Ex 5: $\frac{3}{8} + \frac{1}{2}$

$$= \frac{3}{8} + \frac{4}{8}$$

$$= \frac{7}{8}$$

Ex 6: $-\frac{4}{5} + \frac{1}{10}$

$$= -\frac{8}{10} + \frac{1}{10}$$

$$= -\frac{7}{10}$$

Ex 7: $\frac{1}{3} + (-\frac{1}{4})$

$$\frac{4}{12} + \frac{-3}{12}$$

$$\frac{1}{12}$$

Ex 8: $-\frac{5}{6} + (-\frac{3}{4})$

$$-\frac{10}{12} + \frac{-9}{12}$$

$$-\frac{19}{12}$$

$$-\frac{7}{12}$$

- Adding mixed numbers, convert them to IMPROPER FRACTIONS and get COMMON DENOMINATORS.

Ex 9: $-5\frac{1}{8} + 2\frac{1}{3}$

$$-\left[5\frac{1}{8}\right] + 2\frac{1}{3}$$

$$-\frac{41}{8} + \frac{7}{3}$$

$$-\frac{123}{24} + \frac{56}{24}$$

$$-\frac{67}{24}$$

$$-2\frac{19}{24}$$

Ex 10: $-3\frac{5}{6} + (-2\frac{5}{9})$

$$-\frac{23}{6} + \frac{23}{9}$$

$$-\frac{69}{18} + \frac{46}{18}$$

$$-\frac{115}{18}$$

$$-6\frac{7}{18}$$

6, 12, 18, 24, ...
9, 18, 27, ...