

9/13

Key

Adding/Subtracting Fractions (Positive AND Negative)

- If given mixed numbers, change to improper fractions (easier when working with negatives).
- Find a common denominator.
- Add or subtract the numerator, following the rules for integers.
- Keep the denominator the same.

Examples:

A. $-\frac{3}{4} + 1\frac{1}{2} = -\frac{3}{4} + \frac{3}{2}$	<u>Common Denominator</u> $-\frac{3}{4} + \frac{3 \times 2 = 6}{2 \times 2 = 4}$	$\frac{-3 + 6}{4} = \boxed{\frac{3}{4}}$
B. $2\frac{5}{8} - (-\frac{2}{5}) = \frac{21}{8} - (-\frac{2}{5})$	<u>Common Denominator</u> $\frac{21 \times 5 = 105}{8 \times 5 = 40} - (-\frac{2 \times 8 = 16}{5 \times 8 = 40})$ $\frac{105}{40} + (\frac{16}{40})$	$\frac{105 + 16}{40} = \boxed{\frac{121}{40} \text{ or } 3\frac{1}{40}}$
C. $-3\frac{1}{2} - \frac{4}{7} = -\frac{7}{2} - \frac{4}{7}$	<u>Common Denominator</u> $-\frac{7 \times 7 = 49}{2 \times 7 = 14} - \frac{4 \times 2 = 8}{7 \times 2 = 14}$	$\frac{-49 + 8}{14} = \boxed{\frac{-41}{14} \text{ or } -2\frac{13}{14}}$
D. $\frac{2}{3} - \frac{9}{10} = \text{Simplest form}$	<u>Common Denominator</u> $\frac{2 \times 10 = 20}{3 \times 10 = 30} - \frac{9 \times 3 = 27}{10 \times 3 = 30}$	$\frac{20 - 27}{30} = \boxed{\frac{-7}{30}}$
E. $\frac{5}{6} - 3\frac{1}{2} = \frac{5}{6} - \frac{37}{6}$	<u>Common Denominator:</u> $\frac{5 \times 6 = 30}{6 \times 6 = 36} - \frac{37}{36}$	$\frac{30 - 37}{36} = \boxed{\frac{-7}{36}}$

Table Challenge!

Your turn!
Don't forget
your common
denominators!



1. $-\frac{2}{3} + \left(-\frac{4}{5}\right)$	2. $3\frac{1}{2} - 4\frac{2}{3}$	3. $5\frac{2}{3} - \left(-\frac{1}{4}\right)$
4. $\frac{4}{9} - \frac{2}{3}$	5. $\frac{2}{7} - 3\frac{1}{3}$	6. $5\frac{1}{6} + \left(-\frac{1}{2}\right)$
7. $\frac{9}{10} - 2\frac{3}{4}$	8. $6\frac{1}{3} + \left(-1\frac{1}{2}\right)$	9. $1\frac{2}{7} - \left(-\frac{4}{5}\right)$
10. $-\frac{1}{8} + \frac{7}{9}$	11. $\frac{9}{10} - \frac{10}{11}$	12. $5\frac{2}{3} - 6$

ANSWER BOX:

A. $\frac{28}{6}$	B. $\frac{29}{6}$	C. $-\frac{64}{21}$	D. $-\frac{1}{110}$	E. $-\frac{37}{20}$	F. $-\frac{22}{15}$
G. $-\frac{1}{3}$	H. $-\frac{7}{6}$	I. $\frac{73}{35}$	J. $\frac{71}{12}$	K. $-\frac{2}{9}$	L. $\frac{47}{72}$