

Integer Key Words	
Positive	Negative
Above	Below
up	down
More	less
High	low
Rise	Fall/drop
Increase	Decrease
Ahead	Behind
Gain	Loss
Over	Under
Ascend	Descend
Earn	Spend/pay/owe

Money Words	
Deposit (put in)	Withdraw (take out)
In the black (profit)	In the Red (debt) → bankrupt
Credit	debit

Integers Word Problems (Add + Subtract)

Note:

Positive Words = Add

Negative Words = Subtract

1. A football team **gained 9 yards** on their 1st play, and then **lost 22 yards** on the next. What is their change in field position?

$$9 - 22 = -13 \text{ yards}$$

A loss of 13 yards

A football team lost 5 yards on their first down and lost another 12 yards on their second down. How many total yards have they lost?

$$-5 + (-12) \text{ OR } -5 - 12$$

$$-17 \text{ yards}$$

Lost 17 yards

At noon the temperature was 5 degrees below zero. At 3:00 the temperature had risen 4 degrees. What is the new temp?

$$-5 + 4 = -1^\circ$$

1 degree below zero

Mary has \$45 in the bank. She makes a withdraw of \$25. How much is left in the bank?

$$45 - 25 = 20$$

$$\begin{array}{r} 45 \\ -25 \\ \hline 20 \end{array}$$

Challenge: A bank statement shows the following deposits and withdraws. If the account started with \$350 what is the ending balance?

$350 + \$100, +\$50, -\$250, -\$20, -\$75, +\40

$$\begin{array}{r} 350 \\ 100 \\ 50 \\ + 40 \\ \hline + \$540 \end{array}$$

$$\begin{array}{r} 250 \\ 20 \\ + 75 \\ \hline - \$345 \end{array}$$

$$\begin{array}{r} 4 \text{ } 13 \text{ } 10 \\ 540 \\ - 345 \\ \hline \boxed{\$195} \end{array}$$

A football team gains 8 yards on their 1st play and loses 10 yards on their 2nd. What is their total yardage?

$$8 - 10 = -2 \text{ yards}$$

Loss of 2 yards

A submarine starts at 15 feet below sea level. It rises 9 feet, then descends 12 feet. What is its new position?

$$-15 + 9 - 12$$

$$-6 - 12 = -18 \text{ feet}$$

18 feet below Sea level

It was -23° in the morning and overnight the temperature **dropped 5** more degrees. What is the new temp.?

$$-23 - 5 = \boxed{-28^\circ}$$

It was -23° in the morning and overnight it was -28° **what is the difference** in temperatures?

$$-23 + +28$$

5° difference

Double Zap Word Problems

Key Words: (Subtraction)

- Difference
- How many/much more

Ex) Marc has \$25 and Lena has -\$25.
How much more money does Marc have?

$$25 + +25 = \$50$$

The temperature in Hawaii is 85° and in Alaska it is -20° . What is the difference in the two temps?

$$85 + +20 = 105^\circ$$
$$\begin{array}{r} 85 \\ 20 \\ \hline 105 \end{array}$$

On Own:

1. Johnny deposits \$55 into his account, then withdraws \$75. What is his new balance?

$$55 - 75 = -20 \quad \boxed{-\$20}$$

2. Tara has \$55 in her account and Taylor has $-\$75$ in his. What is the difference in their amounts?

$$55 + +75 = \$130$$

Adding & Subtracting Rational #s 12/2

(With Negatives)

Remember:

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

$$\begin{array}{r} 2 \times 1 \\ 2 \times 3 \end{array} \frac{1}{2} + \begin{array}{r} 1 \times 3 \\ 2 \times 3 \end{array} \frac{1}{2} = \frac{5}{6}$$

*To add/subtract fractions you need a common denominator.

Practice

$$\textcircled{1} \quad 1.2 + \frac{3}{5} = 1.8 = 1\frac{4}{5}$$

$$\textcircled{2} \quad -1.2 + \frac{3}{5} = -0.6 = -\frac{3}{5}$$

$$\textcircled{3} \quad 3\frac{1}{4} + (-2) - 2\frac{1}{4} = -1$$

Ken add $\frac{3}{4}$ cups of broth to a pot. Then he removes $\frac{1}{2}$ cup of broth. How much is left?

$$\frac{3}{4} - \frac{1}{2} = \frac{1}{4} \text{ cup}$$

Julia collected 8.4 gallons of rainwater. She used $5\frac{2}{5}$ gallons this month. How much water is left?

$$8.4 - 5\frac{2}{5} = 3 \text{ gallons}$$

Multiplying & Dividing Rational #s ^{12th}

Key words:

Multiply	Divide
<ul style="list-style-type: none"> • Product • OF * Total of a group with the same amount 	<ul style="list-style-type: none"> • Quotient • per / each / every • Average • How many times more

1. The price of one share declines at a rate of \$3.50 per day. If this continues for 6 days, what is the total amount lost?

Multiply $-3.5(6) = -\$21.00$

2. A deep sea diver descends 325 feet over 10 minutes. How fast is he descending per minute?

Division:

$$\frac{-325}{10} = -32.5$$

He descends 32.5 feet each minute.

3. A deep sea diver descends 32 feet every minute. If this continues for 1/2 an hour how far down is the diver?

30 minutes

Multiply $-32(30) = -960 \text{ ft}$

960 ft.
below sea level

4. Mary deposits the following amounts: \$25, \$75 and \$30 and withdraws: \$15, \$25 and \$45.50. What is the average between her deposits and withdraws?

Add + Divide

Deposits: $25 + 75 + 30 = \$130$
 Withdrawals: $15 + 25 + 45.50 = -85.50$

$$\begin{array}{r} 130.00 \\ - 85.50 \\ \hline 44.50 \div 6 \\ \hline \boxed{\$7.42} \end{array}$$

ON OWN:

1. Jessie spends $\frac{1}{2}$ hour studying for each of her 5 exams. How long did she study all together in hours and minutes.

$$30 \times 5 = 150 \text{ minutes}$$

$$2 \text{ hours } \& \text{ } 30 \text{ minutes}$$

2. If you are 25 miles from home and it takes you $\frac{3}{4}$ hours to get home. How fast were you traveling in miles per hour.

$$25 \div \frac{3}{4} = 33\frac{1}{3} \text{ mph}$$