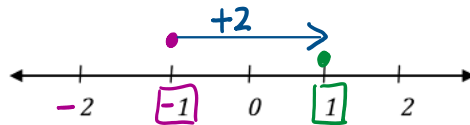# Printout

February 6, 2023   9:56 AM

A

Section 3.2: Adding Rational Numbers

Adding Integers:

a). *(-1) + (+2)* ⟶ let's try using a number line
- start at the first integer
- go __right__ for adding a positive **+**
- go __left__ for adding a negative **−**

$+2$

$-2 \quad \boxed{-1} \quad 0 \quad \boxed{1} \quad 2$

Answer = **1**

$+ \cdot + = +$
$- \cdot - = +$
$+ \cdot - = (-)$
$- \cdot + = (-)$

$-2 - 6$

b). $(-2) + (-6) = -8$

2 + 6 = 8

c).   (−Big) $(-7) + (+4) = -3$

Big small
7 − 4 = 3

d) +big $-3 \,(+12) = 9$

$+12 - 3 = 9$

Try These!

1).   (-2) + (-1)

2). (Try) $-6 + (-4)$
$\boxed{-10}$

3). − big $(+8) + (-12) = -4$
$12 - 8 = 4$

4). −big $(+5) + (-19)$
$19 - 5 = 14$
Ans) $\boxed{-14}$

5). $(-5) + 3 + (-9)$
$-2 \qquad -9$
$\boxed{-11}$

6). −big $7 + (-2) + (-7) + (+4)$
$5 \qquad\qquad -3$
$\boxed{2}$

Answers: a).   *-3* b).   *-10* c).   *-4* d).   *-14* e).   *-11* f). *+2*

Adding Decimals:

1. (−1.3) + (+2.1)   *+big* $2.1 - 1.3 = 0.80$ let's try using a number line

+2.1

-1.3 -1   0   0.8 1
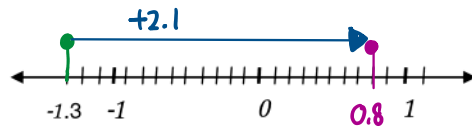
Answer =

2. Write an addition equation for:

+ 1.2

2
1.9   3

Answer : $1.9 + 1.2 = 3.1$

Add.

$$2.8$$
$$+ \; 6.5$$
$$9.3$$
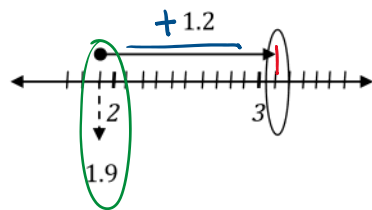
a).   (−2.8) + (−6.5) = −9.3

2.8 + 6.5 = 9.3

c).   (−7.3) + (+3.1) = −4.2

7.3 − 3.1

Try These!

1). (+2.4) + (−1.7)   2). (−3.5) + 6.3   3). (−4.1) + (−3.1)

4). 0.67 + (−0.83)   *−big*   5). −1.5 + 1.25   6). (−0.583) + 0.625

0.83 − 0.67

$$\overset{7 \;\; 13}{0.8\cancel{3}}$$
$$-0.67$$
$$0.16$$

= −0.16

0.625 − 0.583 = 0.042

$$\overset{5 \;\; 12}{0.6\cancel{2}5}$$
$$- \; 0.583$$
$$0.042$$

Answers: a). 0.7   b). 2.8   c). -7.2   d). -0.16   e). -0.25   f). 0.042

Adding Fractions:

$-7 + 5 = -2$

a). $\dfrac{-7}{9} + \dfrac{5}{9} = \dfrac{-2}{9}$

b). $\dfrac{2}{5} + \dfrac{-3}{5} = \dfrac{-1}{5}$

$-big$ $3 - 2 = 1$

*** These fractions already have common denominators (the same bottom #) so just add the numerators (top #'s)

c). $\dfrac{-7}{8} + \dfrac{3 \times 2}{4 \times 2}$ * get common denominators first (make the bottom # the same)
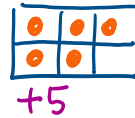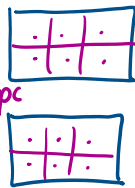
$-7 + 6 = -1$

$\dfrac{-7}{8} + \dfrac{6}{8}$ * multiply the numerator and denominator by the same #

$\boxed{\dfrac{-1}{8}}$ $2 \times 6 = 12 \text{ pc}$ $+5$

b). $-3\dfrac{1}{3} + 2\dfrac{5}{6} +$ * change to an improper fraction first

$3 \times 3 + 1 = 10$

$\dfrac{-10 \times 2}{3 \times 2} + \dfrac{17}{6}$ * get common denominators

$\dfrac{-20}{6} + \dfrac{17}{6} = \boxed{\dfrac{-3}{6}} = \boxed{\dfrac{-1}{2}}$ $\dfrac{-3}{6} \, 1 \\ \, 2$

* in lowest terms.

**** Always reduce your fraction answer to lowest terms.

Try These!

a). $1\dfrac{1}{2} + -2\dfrac{1}{3}$

b). $\dfrac{3}{8} + \dfrac{7}{6}$

Try c). $\dfrac{-3 \times 3}{2 \times 3} + \dfrac{1}{6}$ $-big$ $9 - 1 = 8$

$\dfrac{-9}{6} + \dfrac{1}{6} = \boxed{\dfrac{-8}{6}} = \boxed{\dfrac{-4}{3}}$

Answers: a). $\dfrac{-5}{6}$ b). $\dfrac{37}{24}$ $1\dfrac{7}{24}$ c). $\dfrac{-8}{6}$ $\dfrac{-4}{3}$ decimal

P. 97 Q1-3 all, 6 (Right)

P.106 Q4, 9 (Right) fraction

Addition Word Problems

1. A guardrail needs to be exactly 19.77 m long. A contractor has 3 pieces measuring 2.21m, 9.14m an 3.21m, does he have enough to complete the guardrail?

    Answer:

2. Peter estimates that it takes him $\frac{1}{4}$ to prepare the dough, $\frac{1}{10}$ to grate the cheese, $\frac{1}{3}$ to prepare the toppings, and $\frac{2}{5}$ to bake the pizza.

    a). What fraction of time did it take Peter in total to prepare the pizza?

    Answer:

    b). What was the actual time it took to prepare the pizza?

Addition Practice Questions

1. $(+3.5) + (-4.2)$ 2. $(-2.2) + (-1.6)$ 3. $(-0.17) + 0.83$

4. $\frac{3}{6} + \frac{1}{6}$ 5. $-\frac{5}{6} + \frac{5}{9}$ 6. $-2\frac{1}{4} + \frac{5}{8}$

Answers: 1. -0.7 2. -3.8 3. 0.66 4. $\frac{2}{3}$ 5. $\frac{-5}{18}$ 6. $\frac{-13}{8}$