NAME _____

Check What You Know

Adding and Subtracting Rational Numbers

Evaluate each expression.

	a	b	c
1.	opposite of 45 _____	opposite of −9 _____	opposite of −10 _____
2.	opposite of 21 _____	opposite of 6 _____	opposite of −31 _____
3.	opposite of 52 _____	opposite of −89 _____	opposite of 18 _____
4.	$\|7\|$ = _____	$\|-34\|$ = _____	$\|58\|$ = _____
5.	$-\|35\|$ = _____	$-\|-56\|$ = _____	$\|-39\|$ = _____

Identify the property of addition described as *commutative*, *associative*, or *identity*.

6. The sum of any number and zero is the original number. _____

7. When two numbers are added, the sum is the same regardless of the order of addends.

_____

8. When three or more numbers are added, the sum is the same regardless of how the addends are grouped. _____

	a	b
9.	$7 + (1 + 9) = (7 + 1) + 9$	$3 + 0 = 3$
	_____	_____
10.	$9 + 5 = 5 + 9$	$8 + 10 = 10 + 8$
	_____	_____
11.	$6 + (-6) = 0$	$(6 + 3) + 7 = 6 + (3 + 7)$
	_____	_____
12.	$15 + 0 = 15$	$13 + 2 = 2 + 13$
	_____	_____

NAME _____

Check What You Know

Adding and Subtracting Rational Numbers

Add or subtract. Write fractions in simplest form.

	a	b	c	d
13.	$2\frac{1}{4}$ $+2\frac{2}{3}$	$3\frac{1}{2}$ $+2\frac{1}{7}$	$2\frac{1}{8}$ $+4\frac{2}{3}$	$1\frac{5}{7}$ $+2\frac{4}{5}$
14.	$6\frac{1}{3}$ $-2\frac{1}{4}$	$\frac{3}{8}$ $-\frac{1}{4}$	$5\frac{3}{10}$ $-2\frac{4}{5}$	$3\frac{4}{7}$ $-1\frac{1}{2}$

	a	b	c
15.	$-3 + 2 =$ _____	$3 + (-2) =$ _____	$7 + (-4) =$ _____
16.	$-8 + (-3) =$ _____	$-7 + 6 =$ _____	$-4 + (-9) =$ _____
17.	$6 - 12 =$ _____	$3 - (-4) =$ _____	$-2 - 4 =$ _____

SHOW YOUR WORK

Solve each problem.

18. One box of clips weighs $4\frac{2}{3}$ ounces. Another box weighs $5\frac{3}{8}$ ounces. What is the total weight of the two boxes?

The total weights is _____ ounces.

18.

19. Luggage on a certain airline is limited to 2 pieces per person. Together, the 2 pieces can weigh no more than $58\frac{1}{2}$ pounds. If a passenger has one piece of luggage that weighs $32\frac{1}{3}$ pounds, what is the most the second piece can weigh?

The second piece can weigh _____ pounds.

19.

20. Mavis spends $1\frac{1}{4}$ hours on the bus every weekday (Monday through Friday). How many hours is she on the bus each week?

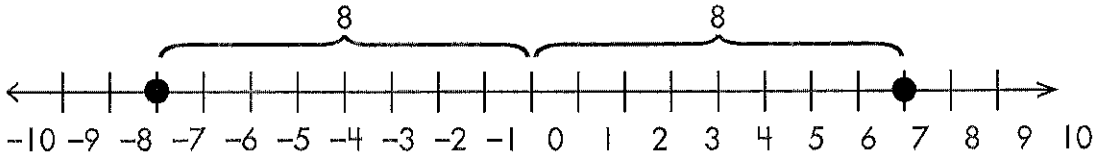
She is on the bus _____ hours each week.

20.

NAME _____

Lesson 1.1 Understanding Absolute Value

The **absolute value** of a number is a number that is the same distance from zero on a number line as the given number, but on the opposite side of zero.



−8 and 8 are absolute value because they are the same distance from zero on opposite sides of the number line.

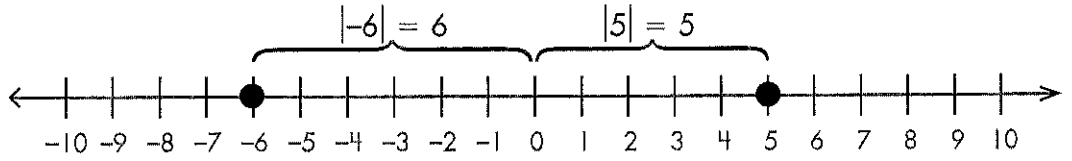
Evaluate the expressions below.

	a	b	c
1.	opposite of 19 _____	opposite of −7 _____	opposite of −2 _____
2.	opposite of 28 _____	opposite of −50 _____	opposite of 10 _____
3.	opposite of 92 _____	opposite of −31 _____	opposite of −74 _____
4.	opposite of 936 _____	opposite of 76 _____	opposite of 65 _____
5.	opposite of −32 _____	opposite of −36 _____	opposite of 73 _____
6.	opposite of 55 _____	opposite of −47 _____	opposite of 87 _____
7.	opposite of −61 _____	opposite of 37 _____	opposite of −23 _____
8.	opposite of 25 _____	opposite of 68 _____	opposite of −53 _____
9.	opposite of 71 _____	opposite of −99 _____	opposite of 90 _____
10.	opposite of 40 _____	opposite of 44 _____	opposite of −77 _____
11.	opposite of −52 _____	opposite of 66 _____	opposite of −95 _____
12.	opposite of 15 _____	opposite of −20 _____	opposite of −9 _____

NAME _____

Lesson 1.2 Absolute Values and Integers

The **absolute value** of a number is the distance between 0 and the number on a number line. Remember that distance is always a positive quantity (or zero). Absolute value is shown by vertical bars on each side of the number.



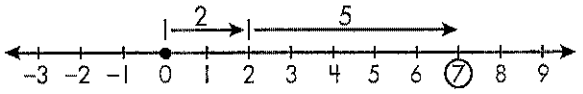
Evaluate the expressions below.

	a	b	c
1.	$\|91\| =$ _____	$\|-19\| =$ _____	$\|-9\| =$ _____
2.	$\|1\| =$ _____	$\|-199\| =$ _____	$\|0\| =$ _____
3.	$\|-762\| =$ _____	$\|78\| =$ _____	$\|-302\| =$ _____
4.	$\|-4002\| =$ _____	$-\|668\| =$ _____	$-\|-8701\| =$ _____
5.	$\|23\| =$ _____	$\|-56\| =$ _____	$-\|432\| =$ _____
6.	$\|-53\| =$ _____	$\|694\| =$ _____	$-\|-274\| =$ _____
7.	$\|-516\| =$ _____	$\|883\| =$ _____	$-\|637\| =$ _____
8.	$\|413\| =$ _____	$\|-590\| =$ _____	$\|739\| =$ _____
9.	$\|-281\| =$ _____	$\|40\| =$ _____	$-\|-826\| =$ _____
10.	$\|206\| =$ _____	$\|372\| =$ _____	$\|973\| =$ _____
11.	$-\|533\| =$ _____	$\|-836\| =$ _____	$\|954\| =$ _____
12.	$\|-344\| =$ _____	$-\|-711\| =$ _____	$\|-219\| =$ _____

NAME _____

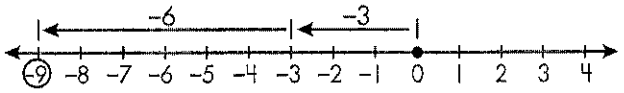
Lesson 1.5 Adding Integers

The sum of two positive integers is a positive integer.



$2 + 5 = 7$

The sum of two negative integers is a negative integer.



$-3 + -6 = -9$

To find the sum of two integers with opposite signs, subtract the digit of lesser value from the digit of greater value and keep the sign of the greater digit.

$5 + (-3) = 5 - 3 = 2$

Add.

	a	b	c	d
1.	$3 + 4$ _____	$-3 + (-4)$ _____	$3 + (-4)$ _____	$-3 + 4$ _____
2.	$-3 + (-3)$ _____	$3 + (-3)$ _____	$-3 + 3$ _____	$3 + 3$ _____
3.	$5 + (-1)$ _____	$-5 + 1$ _____	$-5 + (-1)$ _____	$5 + 1$ _____
4.	$-7 + 3$ _____	$-7 + (-3)$ _____	$7 + (-3)$ _____	$7 + 3$ _____
5.	$4 + 7$ _____	$4 + (-7)$ _____	$-4 + (7)$ _____	$-4 + (-7)$ _____
6.	$8 + (-8)$ _____	$-8 + (-8)$ _____	$8 + 8$ _____	$-8 + 8$ _____
7.	$-3 + 0$ _____	$3 + 0$ _____	$-5 + (-6)$ _____	$-5 + 6$ _____
8.	$5 + (-6)$ _____	$5 + 6$ _____	$-8 + 0$ _____	$8 + 0$ _____
9.	$-3 + 6$ _____	$-3 + (-6)$ _____	$3 + 6$ _____	$3 + (-6)$ _____
10.	$-6 + (-4)$ _____	$-6 + 4$ _____	$6 + (-4)$ _____	$6 + 4$ _____

NAME _____

Lesson 1.5 Adding Integers

To find the sum of two integers with different signs, find their absolute values. Remember, **absolute value** is the distance (in units) that a number is from 0, expressed as a positive quantity. Subtract the lesser number from the greater number. Absolute value is written as $|n|$.

The sum has the same sign as the integer with the larger absolute value.

$-4 + 3 = -1$

$|-4| = 4 \quad 4 - 3 = 1$

$4 > 3$, so the sum is negative.

Add.

	a	b	c
1.	$6 + 2 =$ _____	$9 + (-4) =$ _____	$7 + (-9) =$ _____
2.	$-4 + 7 =$ _____	$-3 + (-6) =$ _____	$-12 + 11 =$ _____
3.	$-16 + 0 =$ _____	$13 + (-24) =$ _____	$-6 + 8 =$ _____
4.	$0 + (-9) =$ _____	$-1 + 2 =$ _____	$1 + (-2) =$ _____
5.	$-4 + 4 =$ _____	$3 + (-6) =$ _____	$7 + (-17) =$ _____
6.	$-45 + 21 =$ _____	$41 + 44 =$ _____	$33 + 25 =$ _____
7.	$27 + (-39) =$ _____	$20 + 1 =$ _____	$3 + (-3) =$ _____
8.	$-12 + (-12) =$ _____	$35 + (-26) =$ _____	$-22 + 16 =$ _____
9.	$31 + 17 =$ _____	$-9 + (-6) =$ _____	$-47 + 36 =$ _____
10.	$4 + 5 =$ _____	$-43 + 35 =$ _____	$24 + (-33) =$ _____

NAME _____

Lesson 1.6 Subtracting Integers

Subtract.

	a	b	c
1.	$-32 - (-27) =$ _____	$-26 - 3 =$ _____	$28 - (-20) =$ _____
2.	$7 - (-37) =$ _____	$-9 - 48 =$ _____	$28 - (-15) =$ _____
3.	$16 - (-1) =$ _____	$24 - (-49) =$ _____	$-30 - (-36) =$ _____
4.	$-44 - 24 =$ _____	$-31 - 34 =$ _____	$-31 - (-13) =$ _____
5.	$-49 - (-46) =$ _____	$-16 - 49 =$ _____	$18 - 28 =$ _____
6.	$-32 - (-50) =$ _____	$-32 - (-21) =$ _____	$-48 - (-47) =$ _____
7.	$-5 - (-30) =$ _____	$14 - (-20) =$ _____	$9 - (-47) =$ _____
8.	$-33 - 39 =$ _____	$4 - (-8) =$ _____	$1 - (-42) =$ _____
9.	$32 - (-41) =$ _____	$40 - 44 =$ _____	$-13 - (-39) =$ _____
10.	$-50 - 19 =$ _____	$48 - (-32) =$ _____	$-14 - (-39) =$ _____
11.	$-18 - (-4) =$ _____	$-45 - 13 =$ _____	$8 - (-67) =$ _____
12.	$56 - (-21) =$ _____	$-11 - 34 =$ _____	$24 - (-17) =$ _____
13.	$31 - (-31) =$ _____	$26 - (-9) =$ _____	$-83 - (-3) =$ _____
14.	$-87 - 6 =$ _____	$-90 - 12 =$ _____	$-46 - (-9) =$ _____

NAME _____

Lesson 1.9 Problem Solving

SHOW YOUR WORK

Solve each problem.

1. At closing time, the bakery had $2\frac{1}{4}$ apple pies and $1\frac{1}{2}$ cherry pies left. How much more apple pie than cherry pie was left?

There was _____ more of an apple pie than cherry.

1.

2. The hardware store sold $6\frac{3}{8}$ boxes of large nails and $7\frac{2}{5}$ boxes of small nails. In total, how many boxes of nails did the store sell?

The store sold _____ boxes of nails.

2.

3. Nita studied $4\frac{1}{3}$ hours on Saturday and $5\frac{1}{4}$ hours on Sunday. How many hours did she spend studying?

She spent _____ hours studying.

3.

4. Kwan is $5\frac{2}{3}$ feet tall. Mary is $4\frac{11}{12}$ feet tall. How much taller is Kwan?

Kwan is _____ foot taller.

4.

5. This week, Jim practiced the piano $1\frac{1}{8}$ hours on Monday and $2\frac{3}{7}$ hours on Tuesday. How many hours did he practice this week? How much longer did Jim practice on Tuesday than on Monday?

Jim practiced _____ hours this week.

Jim practiced _____ hours longer on Tuesday.

5.

6. Oscar caught a fish that weighed $4\frac{1}{6}$ pounds and then caught another that weighed $6\frac{5}{8}$ pounds. How much more did the second fish weigh?

The second fish weighed _____ pounds more.

6.

NAME _____

Lesson 1.9 Problem Solving

SHOW YOUR WORK

Solve each problem.

1. One cake recipe calls for $\frac{2}{3}$ cup of sugar. Another recipe calls for $1\frac{1}{4}$ cups of sugar. How many cups of sugar are needed to make both cakes?

_____ cups of sugar are needed.

1.

2. Nicole and Daniel are splitting a pizza. Nicole eats $\frac{1}{4}$ of a pizza and Daniel eats $\frac{2}{3}$ of it. How much pizza is left?

_____ of the pizza is left.

2.

3. The Juarez family is making a cross-country trip. On Saturday, they traveled 450.8 miles. On Sunday, they traveled 604.6 miles. How many miles have they traveled so far?

They have traveled _____ miles.

3.

4. Kathy's science book is $1\frac{1}{6}$ inches thick. Her reading book is $1\frac{3}{8}$ inches thick. How much thicker is her reading book than her science book?

It is _____ inches thicker.

4.

5. A large watermelon weighs 10.4 pounds. A smaller watermelon weighs 3.6 pounds. How much less does the smaller watermelon weigh?

It weighs _____ pounds less.

5.

6. Terrance picked 115.2 pounds of apples on Monday. He picked 97.6 pounds of apples on Tuesday. How many pounds of apples did Terrance pick altogether?

Terrance picked _____ pounds of apples.

6.

NAME _____

Check What You Learned

Adding and Subtracting Rational Numbers

Evaluate each expression.

	a	b	c
1.	opposite of -54 _____	opposite of 19 _____	opposite of 31 _____
2.	opposite of -6 _____	opposite of 21 _____	opposite of -10 _____
3.	opposite of 54 _____	opposite of -34 _____	opposite of 86 _____
4.	$\lvert -35 \rvert =$ _____	$-\lvert -43 \rvert =$ _____	$\lvert 35 \rvert =$ _____
5.	$-\lvert 75 \rvert =$ _____	$-\lvert 83 \rvert =$ _____	$-\lvert 99 \rvert =$ _____

Identify the property of addition described as *commutative*, *associative*, or *identity*.

6. When two numbers are added, the sum is the same regardless of the order of addends.

_____

7. When three or more numbers are added, the sum is the same regardless of how the addends are grouped.

_____

8. The sum of any number and zero is the original number.

_____

	a	b
9.	$4 + 10 = 10 + 4$ _____	$1 + (-1) = 0$ _____
10.	$(1 + 8) + 2 = 1 + (8 + 2)$ _____	$3 + 5 = 5 + 3$ _____
11.	$8 + 0 = 8$ _____	$2 + (6 + 4) = (2 + 6) + 4$ _____
12.	$12 + 9 = 9 + 12$ _____	$(8 + 5) + 3 = 8 + (5 + 3)$ _____

CHAPTER 1 POSTTEST