

Lesson 3

Pages 52-54

Unit 2

3

Mastery Drill 3

Combining Integers

Materials Needed

Mastery Drill 3

8 Integers

Lesson Overview

Mastery Drill

Review

- Annex zeros and divide until the remainder is zero.

$$2.5 \div 8 = 0.3125$$

$$8.1 \div 4 = 2.025$$

- Write each as a power.

$$19 \text{ squared} = 19^2$$

$$8 \times 8 \times 8 \times 8 \times 8 = 8^5$$

$$6 \text{ to the fourth power} = 6^4$$

$$10,000 = 10^4$$

$$\text{ten million} = 10^7$$

- Write the math sentence and calculate.

$$10^4$$

$$10 \times 10 \times 10 \times 10 = 10,000$$

Teach

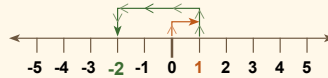
- Combining Integers

Assign

- Lesson Exercises
- We Remember
- Sharpening Your Skills

Combining Integers

- A.** An **integer** is any positive or negative whole number, including zero.
 A **negative integer** is less than zero and is on the left of zero on a number line.
 A negative integer is written with a **negative sign (-)**.
 A **positive integer** is greater than zero and is on the right of zero on a number line.
 The **positive sign (+)** is not written.
- B.** **Combine** integers by putting two or more values together. Count left for each negative integer or right for each positive integer.



$$1 + (-3) = -2$$

Starting at 0, count **right 1** space.
 Starting at 1, count **left 3** spaces.



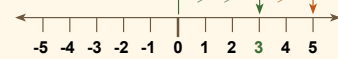
$$-3 + (3) = 0$$

Starting at 0, count **left 3** spaces.
 Starting at -3, count **right 3** spaces.



$$-1 + (-2) = -3$$

Starting at 0, count **left 1** space.
 Starting at -1, count **left 2** spaces.



$$3 + 2 = 5$$

Starting at 0, count **right 3** spaces.
 Starting at 3, count **right 2** spaces.

Copy and combine the integers.

- | | |
|-----------------------------|------------------------------|
| 1. $-4 + (-3)$ -7 | 2. $2 + 3$ 5 |
| 3. $2 + (-4)$ -2 | 4. $19 + (-19)$ 0 |
| 5. $7 + (-3)$ 4 | 6. $-6 + 8$ 2 |
| 7. $-8 + 2$ -6 | 8. $-6 + (-7)$ -13 |
| 9. $14 + (-10)$ 4 | 10. $-17 + 14$ -3 |

Proportions

We can use proportions to change from one country's currency to another. In 2005, the euro was worth about 1.3 U.S. dollars. The ratio was 1.3 dollars to 1 euro.



Teaching the Lesson—Combining Integers

Display the integers poster.

- A.** Explain and discuss the terms **integer**, **negative integer**, and **positive integer**. The negative sign looks like a short minus sign. Read a negative integer by saying *negative* and the number. The positive sign is the same as a plus symbol. Do not say *positive* to read a positive integer.

Write these integers on the board and have students read them aloud.

- | | | | |
|----|----------------|----|---------------|
| -8 | negative eight | -4 | negative four |
| -2 | negative two | 7 | seven |

Write these words on the board and have students write them as integers.

- | | | | |
|--------------|-----|---------------------|-----|
| three | 3 | negative thirty-two | -32 |
| negative ten | -10 | eleven | 11 |

- B.** Explain and discuss the term **combine** and counting left or right on a number line to combine integers.

Write these sets of integers on the board. Demonstrate counting on the number line on the integers poster to combine the first set. Have students combine the remaining sets

- | | | | | | |
|-------------|----|-------------|----|-------------|----|
| $11 + (-2)$ | 9 | $-7 + (-2)$ | -9 | $4 + 7$ | 11 |
| $-2 + 1$ | -1 | $7 + (-7)$ | 0 | $-2 + (-6)$ | -8 |

Mastery Drill 3

- 1 ft = 12 in
- 1 yd = 36 in
- 1 m = 1,000 mm
- 1 cm = 10 mm
- Water boils at 212 °F.
- Water freezes at 32 °F.
- Body temperature is 98.6 °F.
- Room temperature is 72 °F.
- Water boils at 100 °C.
- Water freezes at 0 °C.
- Body temperature is 37 °C.

- A right angle measures 90°.
- A straight angle measures 180°.
- An acute angle measures between 0° and 90°.
- An obtuse angle measures between 90° and 180°.

Write each mixed number and whole number as an improper fraction.

44. $2\frac{1}{4}$ 45. $1\frac{7}{6}$ 46. $3\frac{6}{7}$ 47. $4\frac{2}{3}$ 48. 16 49. $3\frac{3}{1}$

Write the place value of 1 in each number.

- | | |
|------------------------------|--|
| 50. 4.185 tenths | 51. 125,458,250,456,258 hundred trillions |
| 52. 8.731 thousandths | 53. 145,258,456,258 hundred billions |
| 54. 918,273 ten thousands | 55. 451,258,456,258 billions |
| 56. 153 hundreds | 57. 251,458,250,456,258 trillions |
| 58. 451,357 thousands | 59. 458,215,456,258 ten millions |
| 60. 9.415 hundredths | 61. 125,456,258 hundred millions |

Copy and combine the integers.

62. $-13 + 13$ 63. $6 + (-4)$ 64. $-2 + (-11)$ 65. $-8 + 4$



Sharpening Your Skills

Computation

Copy and solve.

| | | | |
|--|--|--|---|
| 66. $26\frac{3}{10} + 19\frac{1}{4}$ $45\frac{11}{20}$ | 67. $3\frac{5}{6} + 5\frac{2}{3}$ $9\frac{1}{2}$ | 68. $38\frac{6}{7} - 13\frac{4}{21}$ $25\frac{2}{3}$ | 69. $9\frac{2}{9} - 2\frac{5}{6}$ $6\frac{7}{18}$ |
| 70. $7\frac{8}{13} - 2\frac{1}{13}$ $5\frac{7}{13}$ | 71. $15 - \frac{2}{9}$ $14\frac{7}{9}$ | 72. $65.82 + 82.48$ 195.97 | 73. $56,992 + 4,111$ $61,103$ |
| 74. 501×83 $41,583$ | 75. $3,049 \times 91$ $277,459$ | 76. 826×900 $743,400$ | 77. 94×29 $2,726$ |
| 78. $81.04 + 1.92$ 82.96 | 79. $28,110 - 7,409$ $20,701$ | 80. $7.281 - 6.186$ 1.095 | 81. $5,000 - 18$ $4,982$ |

54 Unit 2

Assign Class Work

Lesson Alert

Assign exercises for combining integers on page 52.

Assign *We Remember* and *Sharpening Your Skills*.

Extra Practice

► Combine the integers.

| | | | |
|--------------|-----|--------------|-----|
| $5 + (-5)$ | 0 | $-4 + (-16)$ | -20 |
| $-4 + 16$ | 12 | $-16 + 4$ | -12 |
| $7 + 8$ | 15 | $4 + (-21)$ | -17 |
| $-8 + 17$ | 9 | $-9 + (-13)$ | -22 |
| $16 + (-9)$ | 7 | $-4 + 4$ | 0 |
| $-2 + (-3)$ | -5 | $-11 + 8$ | -3 |
| $20 + (-5)$ | 15 | $20 + 8$ | 28 |
| $-13 + (-2)$ | -15 | $2 + (-2)$ | 0 |
| $7 + (-10)$ | -3 | | |