

**2-2****Practice*****Adding Integers***

Find each sum.

1.  $-19 + (-7)$

2.  $-29 + 30$

3.  $-32 + 9$

4.  $10 + 37$

5.  $34 + 22$

6.  $-16 + (-28)$

7.  $-4 + (-50)$

8.  $-12 + (-63)$

9.  $26 + (-9)$

10.  $-17 + (-23)$

11.  $12 + (-22)$

12.  $18 + (-56)$

13.  $-36 + (-36)$

14.  $-54 + 45$

15.  $-34 + 17$

16.  $-16 + (-24)$

17.  $70 + (-108)$

18.  $-52 + 36$

19.  $-71 + (-86)$

20.  $-39 + (-40)$

21.  $25 + 18 + (-23)$

22.  $-65 + (-2) + 9$

23.  $80 + 15 + (-26)$

24.  $-5 + 4 + (-27)$

25.  $-29 + 12 + 44$

26.  $-1 + (-8) + (-49)$

27.  $-16 + (-56) + (-90)$

28.  $-18 + 13 + (-35)$

29.  $10 + (-34) + 17$

30.  $30 + (-9) + 1$

31.  $-24 + 7 + 47$

32.  $51 + (-21) + (-12)$

33. **TEMPERATURE** At 4:00 A.M., the outside temperature was  $-28^{\circ}\text{F}$ . By 4:00 P.M. it rose 38 degrees. What was the temperature at 4:00 P.M.?

34. **HEALTH** Three friends decided to exercise together four times a week to lose fat and increase muscle mass. While all three were healthier after six weeks, one had lost 5 pounds, another had gained 3 pounds, and one had lost 4 pounds. What was the total number of pounds gained or lost by the three friends?

35. **ROLLER COASTERS** The latest thrill ride at a popular theme park takes roller coaster fans on an exciting ride. In the first 20 seconds, it carries its passengers up a 100-meter hill, plunges them 72 meters down, and quickly takes them back up a 48-meter rise. How much higher or lower from the start of the ride are they after these 20 seconds?

**2-3****Practice*****Subtracting Integers***

Find each difference.

1.  $-26 - (-30)$

2.  $25 - 32$

3.  $-18 - 54$

4.  $59 - (-19)$

5.  $-41 - (-19)$

6.  $-20 - 13$

7.  $31 - (-56)$

8.  $15 - (-40)$

9.  $-32 - 28$

10.  $10 - (-23)$

11.  $-14 - 64$

12.  $-12 - (-36)$

13.  $-81 - 4$

14.  $9 - 30$

15.  $-44 - (-21)$

16.  $140 - (-9)$

Evaluate each expression if  $a = -11$ ,  $b = 8$ , and  $c = -6$ .

17.  $a - 17$

18.  $10 - b$

19.  $-30 - c$

20.  $b - a$

21.  $a - b$

22.  $c - b$

23.  $b - c + a$

24.  $b - c - a$

25.  $c - a - b$

26.  $b + a - c$

27.  $b + c - a$

28.  $c - a + b$

29.  $a - b + c$

30.  $b - a + c$

31.  $a - b - c$

32.  $c + b - a$

33.  $c - b + a$

34.  $a + b - c$

35.  $16 + a + c$

36.  $a - b + 14$

37. **ELEVATORS** Linda entered an elevator on floor 9. She rode down 8 floors. Then she rode up 11 floors and got off. What floor was she on when she left the elevator?

38. **INVESTMENTS** The NASDAQ lost 36 points on a Monday, but rebounded the next day, gaining 24 points. What was the total change in points?

39. **OFFICE BUILDINGS** Randi takes the stairs at work whenever possible instead of the elevator. She must climb up 51 steps from her office to get to the accounting department. The human resources department is 34 steps below her office. How many steps are there between human resources and accounting?

**2-4****Practice****Multiplying Integers**

Find each product.

1.  $8(16)$

2.  $-4(17)$

3.  $-1(-40)$

4.  $-5(-7)$

5.  $0(-54)$

6.  $29(-2)$

7.  $-20(-20)$

8.  $-31(-4)$

9.  $-2(-15)(-6)$

10.  $3(-5)(-8)$

11.  $-10(17)(-2)$

12.  $-2(-2)(-2)$

13.  $12(10)(5)$

14.  $-50(-21)(2)$

15.  $-8(-13)(-25)$

16.  $-5(16)(4)$

**ALGEBRA** Simplify each expression.

17.  $-6r \cdot (12s)$

18.  $-15 \cdot (9v)$

19.  $2ab \cdot (-25)$

20.  $-27y \cdot (-z)$

21.  $-60m(-2)(-3n)$

22.  $-9u(-4)(-w)$

23.  $29g(0)(-15)$

24.  $-b(-12)(11)$

25.  $19h(-1)(-2s)$

26.  $-h(-jk)$

27.  $(-1)(-a)(-bc)$

28.  $(-1)(-fg)(-xy)$

**ALGEBRA** Evaluate each expression if  $a = -1$ ,  $b = -6$ , and  $c = 5$ .

29.  $-11a$

30.  $4ab$

31.  $-8bc$

32.  $-10ac$

33.  $15ab$

34.  $12ac$

35.  $abc$

36.  $-abc$

37.  $-11a(-bc)$

38.  $4ab(-8c)$

39.  $9a(-2b)(5c)$

40.  $-3a(-2b)(-c)$

41. **REAL ESTATE** In Montyville, the value of homes has experienced an annual increase of  $-2$  percent. If the rate continues, what will be the increase over 10 years?

42. **RETAIL** The Good Food n' More grocery store loses an average of \$210 a day due to breakage, shoplifting, and food expiration. How much money does the store lose on average per 7-day week?

**2-5****Practice****Dividing Integers**

Find each quotient.

1.  $-44 \div 4$

2.  $0 \div (-5)$

3.  $-21 \div 21$

4.  $32 \div 8$

5.  $-17 \div -17$

6.  $-49 \div 7$

7.  $80 \div -4$

8.  $-64 \div -8$

9.  $\frac{72}{-9}$

10.  $\frac{-100}{-5}$

11.  $\frac{-90}{6}$

12.  $\frac{360}{12}$

13.  $\frac{-400}{-25}$

14.  $\frac{-525}{5}$

15.  $\frac{84}{-6}$

16.  $\frac{215}{5}$

Evaluate each expression if  $a = -2$ ,  $b = 5$ , and  $c = -4$ .

17.  $-35 \div b$

18.  $54 \div a$

19.  $-56 \div c$

20.  $205 \div b$

21.  $\frac{c}{-2}$

22.  $\frac{b}{5}$

23.  $\frac{2}{a}$

24.  $\frac{-4}{c}$

25.  $\frac{-28}{c}$

26.  $\frac{ac}{-8}$

27.  $\frac{bc}{a}$

28.  $\frac{250}{ab}$

Find the average (mean) of each group of numbers.

29. 23, 20, 27, 18

30. -8, 9, 4, 0, 2, -1

31. 17, 21, 4

32. -20, -15, -12, -1, 1, 12, 15, 20

33. -7, -3, -9, 0, 21, -2, -14

34. **TESTS** Miranda earned scores of 84, 91, 95, 78, and 92 on her math tests. Find her average (mean) score.

35. **TEMPERATURE** At noon on Friday, the temperature was  $0^{\circ}\text{F}$ . Six hours later the temperature was  $-18^{\circ}\text{F}$ . On average, what was the temperature change per hour?

36. **BUSINESS** The architecture firm of Stuart and Maxwell, Ltd., had monthly profits of \$1200, \$755,  $-\$450$ , \$210, and  $-\$640$  over 5 months. What was the average profit for those months?

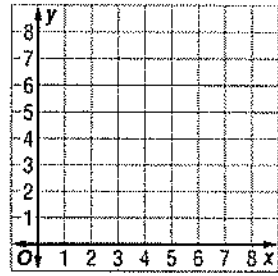
# 1-6

## Practice

### Ordered Pairs and Relations

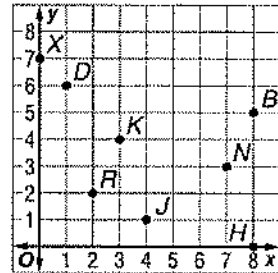
Graph each point on the coordinate system.

- |              |              |
|--------------|--------------|
| 1. $Q(4, 2)$ | 2. $V(3, 7)$ |
| 3. $T(0, 3)$ | 4. $B(8, 6)$ |
| 5. $R(5, 0)$ | 6. $L(4, 4)$ |



Write the ordered pair that names each point.

- |         |         |
|---------|---------|
| 7. $J$  | 8. $X$  |
| 9. $R$  | 10. $B$ |
| 11. $K$ | 12. $H$ |
| 13. $D$ | 14. $N$ |

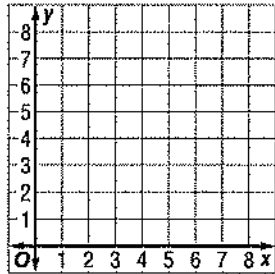


Express each relation as a table and as a graph. Then determine the domain and range.

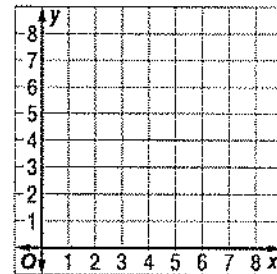
15.  $\{(3, 7), (1, 1), (6, 5), (2, 4)\}$

16.  $\{(0, 2), (4, 6), (3, 7)\}$

x	y

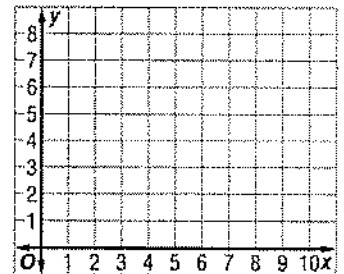


x	y



17. **GEOMETRY** Graph  $(2, 1)$ ,  $(2, 4)$ , and  $(5, 1)$  on the coordinate system.

- Connect the points with line segments. What figure is formed?
- Multiply each number in the set of ordered pairs by 2. Graph and connect the new ordered pairs. What figure is formed?
- Compare the two figures you drew. Write a sentence that tells how the figures are the same and how they are different.



**2-1****Practice*****Integers and Absolute Value***

Replace each  $\circ$  with  $<$ ,  $>$ , or  $=$  to make a true sentence.

- |                     |                    |                    |                   |
|---------------------|--------------------|--------------------|-------------------|
| 1. $0 \circ -5$     | 2. $10 \circ -10$  | 3. $-8 \circ 3$    | 4. $11 \circ 11$  |
| 5. $-18 \circ -18$  | 6. $-18 \circ 18$  | 7. $18 \circ -18$  | 8. $18 \circ 18$  |
| 9. $-120 \circ -95$ | 10. $35 \circ -12$ | 11. $-35 \circ 12$ | 12. $41 \circ 17$ |

Order the integers in each set from least to greatest.

- |                                    |                                |                          |
|------------------------------------|--------------------------------|--------------------------|
| 13. $\{-14, -6, -22, 0\}$          | 14. $\{-3, 19, 0, -5\}$        | 15. $\{-7, 20, -21, 7\}$ |
| 16. $\{15, -1, 4, -3\}$            | 17. $\{0, -1, 2, -3, 4\}$      | 18. $\{55, 0, -60, 12\}$ |
| 19. $\{-48, -30, -49, -8, 3, -4\}$ | 20. $\{27, -9, 3, 0, -2, 29\}$ |                          |

Evaluate each expression.

- |                  |                    |                     |
|------------------|--------------------|---------------------|
| 21. $ -7 $       | 22. $ 14 $         | 23. $ -11 $         |
| 24. $ -9  -  6 $ | 25. $ -18  -  -8 $ | 26. $ -12  +  1 $   |
| 27. $ 8 - 4 $    | 28. $ 23  -  18 $  | 29. $ -16  +  -22 $ |

Evaluate each expression if  $a = -3$ ,  $b = 0$ , and  $c = 1$ .

- |                 |                 |                |
|-----------------|-----------------|----------------|
| 30. $ a  -  c $ | 31. $ a  +  c $ | 32. $ ab  + c$ |
| 33. $5 -  ac $  | 34. $c +  -5 $  | 35. $c +  5 $  |

36. **WEATHER** At 6:15 a.m. the temperature was  $-8^{\circ}\text{F}$ . At 12:15 p.m. the temperature was  $-12^{\circ}\text{F}$ . At 6:16 p.m. the temperature was  $-10^{\circ}\text{F}$ . Order the temperatures from least to greatest.