

GUIDED PRACTICE

1. **Vocabulary** Explain why the *order of operations* is necessary for simplifying numerical expressions.

SEE EXAMPLE 1
p. 40

Simplify each expression.

2. $5 - 12 \div (-2)$

3. $30 - 5 \cdot 3$

4. $50 - 6 + 8$

5. $12 \div (-4)(3)$

6. $(5 - 8)(3 - 9)$

7. $16 + [5 - (3 + 2^2)]$

SEE EXAMPLE 2
p. 41

Evaluate each expression for the given value of the variable.

8. $5 + 2x - 9$ for $x = 4$

9. $30 \div 2 - d$ for $d = 14$

10. $51 - 91 + g$ for $g = 20$

11. $2(3 + n)$ for $n = 4$

12. $4(b - 4)^2$ for $b = 5$

13. $12 + [20(5 - k)]$ for $k = 1$

SEE EXAMPLE 3
p. 41

Simplify each expression.

14. $24 \div |4 - 10|$

15. $4.5 - \sqrt{2(4.5)}$

16. $5(2) + 16 \div |-4|$

17. $\frac{0 - 24}{6 + 2}$

18. $\frac{2 + 3(6)}{2^2}$

19. $-44 \div \sqrt{12 \div 3}$

SEE EXAMPLE 4
p. 42

Translate each word phrase into a numerical or algebraic expression.

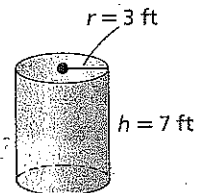
20. 5 times the absolute value of the sum of s and -2

21. the product of 12 and the sum of -2 and 6

22. 14 divided by the sum of 52 and -3

SEE EXAMPLE 5
p. 42

23. **Geometry** The surface area of a cylinder can be found using the expression $2\pi r(h + r)$. Find the surface area of the cylinder shown. (Use 3.14 for π and give your final answer rounded to the nearest tenth.)



PRACTICE AND PROBLEM SOLVING

Simplify each expression.

24. $3 + 4(-5)$

25. $20 - 4 + 5 - 2$

26. $41 + 12 \div 2$

27. $3(-9) + (-2)(-6)$

28. $10^2 \div (10 - 20)$

29. $(6 + 2 \cdot 3) \div (9 - 7)^2$

30. $-9 - (-18) + 6$

31. $15 \div (2 - 5)$

32. $5(1 - 2) - (3 - 2)$

Evaluate each expression for the given value of the variable.

33. $-6(3 - p)$ for $p = 7$

34. $5 + (r + 2)^2$ for $r = 4$

35. $13 - [3 + (j - 12)]$ for $j = 5$

36. $(-4 - a)^2$ for $a = -3$

37. $7 - (21 - h)^2$ for $h = 25$

38. $10 + [8 \div (q - 3)]$ for $q = 2$

39. $(4r - 2) + 7$ for $r = 3$

40. $-2(11b - 3)$ for $b = 5$

41. $7x(3 + 2x)$ for $x = -1$

Simplify each expression.

42. $-4|2.5 - 6|$

43. $\frac{8 - 8}{2 - 1}$

44. $\frac{3 + |8 - 10|}{2}$

45. $\sqrt{3^2 - 5} \div 8$

46. $\frac{-18 - 36}{-9}$

47. $\frac{6|5 - 7|}{14 - 2}$

48. $\sqrt{5^2 - 4^2}$

49. $(-6 + 24) \div |-3|$

Independent Practice

For Exercises	See Example
24-32	1
33-41	2
42-49	3
50-53	4
54	5

Extra Practice

Skills Practice p. 55
 Application Practice p. 528