

1. Find the values of each pair of expressions.

a. $-12 + (-4 + 9)$

$[-12 + (-4)] + 9$

b. $(14 - 20) - 8$

$14 - (20 - 8)$

c. $[14 + (-20)] + (-8)$

$14 + [-20 + (-8)]$

d. $-1 - [-1 + (-1)]$

$[-1 - (-1)] + (-1)$

e. Which cases lead to expressions with different results? Explain.

For Exercises 2–7, find the value of each expression.

2. $(5 - 3) \div (-2) \cdot (-1)$

3. $2 + (-3) \cdot 4 - (-5)$

4. $4 \cdot 2 \cdot (-3) + (-10) \div 5$

5. $-3 \cdot [2 + (-10)] - 2^2$

6. $(4 - 20) \div 2^2 - 5 \cdot (-2)$

7. $10 - [50 \div (-2 \cdot 25) - 7] \cdot 2^2$

12. Without doing any calculations, determine whether each number sentence is true. Explain. Then check your answer.

a. $50 \cdot 432 = (50 \cdot 400) + (50 \cdot 32)$

b. $50 \cdot 368 = (50 \cdot 400) - (50 \cdot 32)$

c. $-50 \cdot 998 = [-50 \cdot (-1,000)] + [-50 \cdot 2]$

d. $-50 + (400 \cdot 32) = (-50 + 400) \cdot (-50 + 32)$

e. $(-70 \cdot 20) + (-50 \cdot 20) = (-120 \cdot 20)$

f. $6 \cdot 17 = 6 \cdot 20 - 6 \cdot 3$

expression.

Use the distributive property to write an equivalent

13. $-2 \cdot [5 + (-8)]$

14. $(-3 \cdot 2) - [-3 \cdot (-12)]$

15. $x \cdot (-3 + 5)$

16. $-7x + 4x$

17. $2x \cdot [2 - (-4)]$

18. $x - 3x$

19. A grocery store receipt shows 5% state tax due on laundry detergent and a flower bouquet. Does it matter whether the tax is calculated on each separate item or the total cost? Explain.

