1-3 Order of Operations with Variables
ANSWERS

Simplify all of the algebraic expressions below given that
a = 10   b = 8   c = 20   x = 2   y = 1

Remember to show all of your work, step by step.

1.   ab – c
      10 • 8 – 20
        80 – 20
          60

2.   c – xy
      20 – 2 • 1
        20 – 2
          18

3.   ax – cy
      10 • 2 – 20 • 1
        20 – 20 • 1
          20 – 20
            0

4.   4x + 2c
      4 • 2 + 2 • 20
        8 + 2 • 20
          8 + 40
            48

5.   8b – 2c
      8 • 8 – 2 • 20
        64 – 2 • 20
          64 – 40
            24

6.   5ax – 2cy
      5 • 10 • 2 – 2 • 20 • 1
        50 • 2 – 2 • 20 • 1
          100 – 2 • 20 • 1
            100 – 40 • 1
              100 – 40
                60

7.   a(c – 2b) – y
      10 • (20 – 2 • 8) – 1
        10 • (20 – 16) – 1
          10 • 4 – 1
            40 – 1
              39

8.   x(3b – c) + x(c – ax)
      2 • (3 • 8 – 20) + 2 • (20 – 10 • 2)
        2 • (24 – 20) + 2 • (20 – 10 • 2)
          2 • 4 + 2 • (20 – 10 • 2)
            2 • 4 + 2 • (20 – 20)
              2 • 4 + 2 • 0
                8 + 2 • 0
                  8 + 0
                    8