Pulling Out a Negative: Worked Answers

Each problem solved the way the lesson does it.

Name: _____ Date: _____

1. Factor −3x + 12 by pulling out −3
   - −3x ÷ (−3) = x, 12 ÷ (−3) = −4.
   - Check: −3(x − 4) = −3x + 12.

   Answer: −3(x − 4)

2. Factor −4y − 20 by pulling out −4
   - −4y ÷ (−4) = y, −20 ÷ (−4) = 5.

   Answer: −4(y + 5)

3. Factor −10a + 5 by pulling out −5
   - −10a ÷ (−5) = 2a, 5 ÷ (−5) = −1.
   - Leave the 1 in, with its sign.

   Answer: −5(2a − 1)

4. Factor 8 − 2x by pulling out −2
   - 8 ÷ (−2) = −4, −2x ÷ (−2) = x.
   - Variable first: −2(x − 4).

   Answer: −2(x − 4)

5. Factor −6m + 9n − 3 by pulling out −3
   - −6m ÷ (−3) = 2m, 9n ÷ (−3) = −3n, −3 ÷ (−3) = 1.

   Answer: −3(2m − 3n + 1)

6. Factor −7x − 14 two ways: pull out 7, then pull out −7
   - Pull out 7: 7(−x − 2).
   - Pull out −7: −7(x + 2).

   Answer: 7(−x − 2) or −7(x + 2)

7 Which are equivalent to 10 − 5x? A. 5(2 − x) B. −5(x − 2) C. −5(x + 2)

- Expand: A is 10 − 5x. B is −5x + 10. C is −5x − 10.

Answer: A and B

8 Factor −9y + 6 by pulling out −3, then check

- −9y ÷ (−3) = 3y, 6 ÷ (−3) = −2.
- Check: −3(3y − 2) = −9y + 6.

Answer: −3(3y − 2)