Practice Exercises on Factoring General Trinomials

A. True or False

Write True if the statement is true or False if it is false. One point each.

1. $6x^2 - 5x - 6 = (2x - 3)(3x + 2)$
2. $3x^2 + 17x + 10 = (3x + 2)(x - 5)$
3. $2x^2 + 5x - 3 = (2x - 1)(x + 3)$
4. $2x^2 - 3x - 9 = (x - 3)(2x - 3)$
5. $3x^2 - 17x + 10 = (x - 5)(3x - 2)$

B. Factoring General Trinomials

Factor each polynomial completely. Write the final answers only. One point each.

1. $3b^2 - 2b - 5$
2. $3m^2 - 8m + 4$
3. $2n^2 + 11n + 5$
4. $7m^2 + 53m + 28$
5. $15k^2 - 27k - 6$
6. $4n^2 - 15n - 25$
7. $4b^2 - 17b + 4$
8. $6n^2 + 37n + 6$
9. $6k^2 + 5k - 6$
10. $2p^2 + 2p - 4$

C. Fill in the Blank

Factor each polynomial completely then supply the missing terms. One point each.

1. $2n^2 + 3n - 9 = (\_\_\_\_ - 3)(n + 3)$
2. $5n^2 + 19n + 12 = (5n + 4)(n + \_\_\_\_)$
3. $2a^2 + 22a + 36 = 2(a + 2)(a + \_\_\_\_)$
4. $2n^2 + 5n + 2 = (2n + \_\_\_\_)(n + 2)$
5. $9n^2 + 66n + 21 = \_\_\_\_(3n + 1)(n + 7)$
6. $5n^2 - 18n + 9 = (\_\_\_\_ - 3)(n - 3)$
7. $4a^2 - 35a + 49 = (a - \_\_\_\_)(4a - 7)$
8. $4v^2 - 4v - 8 = 4(v + 1)(v - \_\_\_\_)$
9. $6v^2 + 7v - 49 = (\_\_\_\_ - 7)(2v + 7)$
10. $-6v^2 - 25v - 25 = \_\_\_\_(2v + 5)(3v + 5)$

Answer Key

A. True or False

1. True
2. False
3. True
4. False
5. True

B. Factoring General Trinomials

1. $3b^2 - 2b - 5 = (b + 1)(3b - 5)$
2. $3m^2 - 8m + 4 = (m - 2)(3m - 2)$
3. $2n^2 + 11n + 5 = (n + 5)(2n + 1)$
4. $7m^2 + 53m + 28 = (m + 7)(7m + 4)$
5. $15k^2 - 27k - 6 = 3(k - 2)(5k + 1)$
6. $4n^2 - 15n - 25 = (n - 5)(4n + 5)$
7. $4b^2 - 17b + 4 = (b - 4)(4b - 1)$
8. $6n^2 + 37n + 6 = (n + 6)(6n + 1)$
9. $6k^2 + 5k - 6 = (2k + 3)(3k - 2)$
10. $2p^2 + 2p - 4 = 2(p - 1)(p + 2)$

C. Fill in the Blank

1. $2n$
2. 3
3. 9
4. 1
5. 3
6. $5n$
7. 7
8. 2
9. $3v$
10. -1 or $-$