7-6 Lesson Quiz

Factoring $ax^2 + bx + c$

1. What is the factored form of $2x^3 + 4x^2 - 30x$?

Ⓐ $2x(x - 5)(x + 3)$

Ⓑ $(x^2 + 5)(2x - 6)$

Ⓒ $x(2x + 10)(2x - 6)$

Ⓓ $2x(x + 5)(x - 3)$

2. Fill in the blanks to factor the trinomial $3x^2 + 13x - 10$ by grouping.

$3x^2 + 13x - 10 = 3x^2 - \_\_\_\_\_x + \_\_\_\_\_x - 10$

$= \_\_\_\_\_(3x - 2) + \_\_\_\_\_(3x - 2)$

$= (\_\_\_\_\_ + \_\_\_\_\_)(3x - 2)$

3. Factor the trinomial $6x^2 + 17x + 5$ by grouping. Show your work.

4. The area of a rectangular patio is $3x^2 + 17x + 20$ ft^2.
Which of the following could be dimensions of the patio?

Ⓐ $x + 5$ ft by $3x + 4$ ft

Ⓑ $3x + 5$ ft by $x + 4$ ft

Ⓒ $x + 5$ ft by $x + 4$ ft

Ⓓ $3x + 5$ ft by $3x + 4$ ft

5. Factor $2x^2 - 7x - 15$.

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1. What is the factored form of $2x^3 + 4x^2 - 30x$?

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2. Fill in the blanks to factor the trinomial $3x^2 + 13x - 10$ by grouping.

$3x^2 + 13x - 10 = 3x^2 - \underline{2}\,x + \underline{15}\,x - 10$

$= \underline{x}\,(3x - 2) + \underline{5}\,(3x - 2)$

$= (\underline{x} + \underline{5})(3x - 2)$

3. Factor the trinomial $6x^2 + 17x + 5$ by grouping. Show your work.

$6x^2 + 17x + 5 = 6x^2 + 15x + 2x + 5$

$= 3x(2x + 5) + 1(2x + 5)$

$= (3x + 1)(2x + 5)$

4. The area of a rectangular patio is $3x^2 + 17x + 20$ ft^2.
Which of the following could be dimensions of the patio?

Ⓐ $x + 5$ ft by $3x + 4$ ft

Ⓑ $3x + 5$ ft by $x + 4$ ft

Ⓒ $x + 5$ ft by $x + 4$ ft

Ⓓ $3x + 5$ ft by $3x + 4$ ft

5. Factor $2x^2 - 7x - 15$.

$(2x + 3)(x - 5)$