

10. Factor each quadratic expression.





Who's correct? Determine which student is correct and explain how that student determined the factored form. If a student is not correct, state why and make the correction.

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12. Marilyn and Jake were working together to factor the trinomial $4x^2 + 22x + 24$. They first noticed that there was a greatest common factor and rewrote the trinomial as

$$2(2x^2 + 11x + 12).$$

Next, they considered the factor pairs for $2x^2$ and the factor pairs for 12.

- $2x^2$: (2x) (x)
- 12: (1) (12)
 - (2) (6)
 - (3) (4)

Marilyn listed all out all the possible combinations.

2(2x + 1)(x + 12) 2(2x + 12)(x + 1) 2(2x + 2)(x + 6) 2(2x + 6)(x + 2) 2(2x + 3)(x + 4)2(2x + 4)(x + 3)

Jake immediately eliminated four out of the six possible combinations because the terms of one of the linear expressions contained common factors.

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Explain Jake's reasoning. Then circle the correct factored form of $4x^2 + 22x + 24$.

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Talk the Talk

1. Factor each polynomial completely. First, determine if there is a greatest common factor, and then write the polynomial in factored form.

a.
$$x^2 - 9x - 10$$

b. $4x^2 - 20x + 16$
c. $-20 + 9b - b^2$
d. $3y^2 - 8y - 3$

- **e.** $7x^2 7x 56$ **f.** $3y^3 27y^2 30y$
- 2. Use the word bank to complete each sentence. Then explain your reasoning.

always	sometimes	never

- a. The product of two linear expressions will ______ be a trinomial with a degree of 3.
- **b.** The two binomial factors of a quadratic expression will ______ have a degree of one.
- c. The factoring of a quadratic expression will ______ result in two binomials.



Be prepared to share your solutions and methods.