EXAMPLE 5   TAKS PRACTICE: Multiple Choice

A rectangle's length is 13 meters more than 3 times its width. The area is 10 square meters. What is the width?

(A) $\frac{2}{3}$ m   (B) 3 m   (C) 5 m   (D) 10 m

$w(3w + 13) = 10$	**Write an equation to model area.**
$3w^2 + 13w - 10 = 0$	**Simplify and subtract 10 from each side.**
$(w + 5)(3w - 2) = 0$	**Factor left side.**
$w + 5 = 0 \quad or \quad 3w - 2 = 0$	**Zero-product property**
$w = -5 \ or \qquad w = \frac{2}{3}$	**Solve for w.**

Reject the negative width.

▶ The correct answer is A. (A) (B) (C) (D)

✓ **GUIDED PRACTICE**   for Example 5

9. A rectangle's length is 1 inch more than twice its width. The area is 6 square inches. What is the width?

(A) $\frac{1}{2}$ in.   (B) $\frac{3}{2}$ in.   (C) 2 in.   (D) $\frac{5}{2}$ in.

9.6 EXERCISES

HOMEWORK KEY

○ = **WORKED-OUT SOLUTIONS**
on p. WS1 for Exs. 5, 25, and 61

🟥 = **TAKS PRACTICE AND REASONING**
Exs. 22, 41, 51, 60, and 64

◆ = **MULTIPLE REPRESENTATIONS**
Ex. 62

SKILL PRACTICE

1. VOCABULARY What is another word for the solutions of $x^2 + 2x + 1 = 0$?

2. WRITING *Explain* how you can use a graph to check a factorization.

3. WRITING *Compare* factoring $6x^2 - x - 2$ with factoring $x^2 - x - 2$.

EXAMPLES
1, 2, and 3
on pp. 593–594
for Exs. 4–22

FACTORING TRINOMIALS Factor the trinomial.

4. $-x^2 + x + 20$

5. $-y^2 + 2y + 8$

6. $-a^2 + 12a - 27$

7. $5w^2 - 6w + 1$

8. $-3p^2 - 10p - 3$

9. $6s^2 - s - 5$

10. $2t^2 + 5t - 63$

11. $2c^2 - 7c + 3$

12. $3n^2 - 17n + 10$

13. $-2h^2 + 5h + 3$

14. $-6k^2 - 13k - 6$

15. $10x^2 - 3x - 27$

16. $4m^2 + 9m + 5$

17. $3z^2 + z - 14$

18. $4a^2 + 9a - 9$

19. $4n^2 + 16n + 15$

20. $-5b^2 + 7b - 2$

21. $6y^2 - 5y - 4$