

9.3 Factor Trinomials (by grouping)

Name: _____

Write your questions
and thoughts here!**Notes**

Try factoring this trinomial with the strategies from the last lesson:

$$12x^2 - 13x - 9$$

$$\begin{array}{cccccccc} (&) & (&) & (&) & (&) & (&) & (&) \\ (&) & (&) & (&) & (&) & (&) & (&) \end{array}$$

If it's too difficult to guess and check, try factor by grouping!

1. $9x^2 - 16x - 4$

2. Solve: $8x^2 + 25x + 3 = 0$

3. $-2x^2 + 5x + 12$

4. Solve: $x^2 + 4x + 3 = 0$

5. Solve:
 $12x^3 - 12x^2 - 9x = 0$

6. $2x^2 - x + 5$

Now
summarize
what you
learned!

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Practice

Algebra 1

Name: _____

Factor each trinomial by GROUPING. Some problems may not factor.

1. $9n^2 + 55n + 6$

2. $4p^2 + 4p - 15$

3. $x^2 + 3x - 40$

4. $10x^2 + 3x - 4$

5. $-12y^2 - 34y - 24$

6. $4x^2 + 10x - 1$

7. $3x^2 + 10x + 8$

8. $3x^2 + 2x - 6$

9. $5t^2 - 11t + 6$

10. $p^3 + 12p^2 + 20p$

11. $10w^2 - 7w + 1$

12. $-14x^2 - 5x + 1$

13. $25x^2 - 64$

14. $100x^2 - 49$

15. $9x^2 - 1$

Solve each equation by factoring.

16. $5p^2 - 11p = 12$

17. $2x^3 + 25x = 15x^2$

18. $24x^2 + 18x + 3 = 0$

19. $3x^2 - 7x = -2$

9.3 Factor Trinomials (by grouping)**Wrap up**

Practice check: The next two questions are just like the practice, but we provide no answers. If you can't do these problems, then you're definitely not ready for a Mastery Check!

20. Factor: $10x^2 + x - 2$

21. Solve by factoring: $9x^2 + 5 = 18x$

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22. Which of the following is the factored form of $(x) = 2x^2 + x - 3$?

- (A) $f(x) = (2x - 1)(x + 3)$
- (B) $f(x) = (2x - 3)(x + 1)$
- (C) $f(x) = (2x + 1)(x + 3)$
- (D) $f(x) = (2x + 3)(x - 1)$
- (E) $f(x) = (2x + 1)(x - 3)$

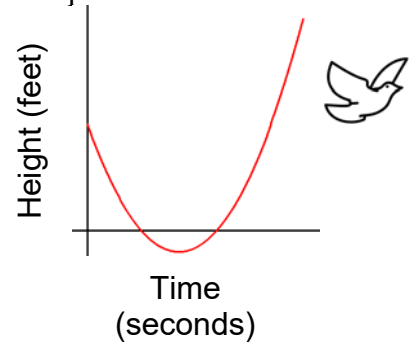
23. A Blue-Footed Kelly bird plunge dives into the water to catch a fish. The equation

$$h(t) = 2t^2 - 17t + 30$$

shows the bird's height in feet from sea level over time t , measured in seconds where $0 \leq t \leq 30$.

$h(t)$ is shown below.

a. Find $h(8)$. Use a sentence to explain its meaning in the context of this problem.



b. When does the bird come out of the water?

EXIT TICKET –

The area of the rectangle shown below is 26 feet^2 . **Find the perimeter** of the rectangle. (*hint*: set up an equation for the area and solve for x . Then use that to find the perimeter.)

