

9.3 Factor Trinomials by Grouping

NOTES

ALGEBRA

Write your
questions here!



What's different about these trinomials? **CHECK YOUR ANSWER!**

$$x^2 - 4x - 12$$

$$2x^2 - 9x - 5$$

$$3x^2 + 10x - 8$$

$$6x^2 - 5x - 4$$

SOLVE THE FOLLOWING.

DIFFERENCE OF SQUARES

$$x^2 - 25$$

$$9x^2 - 25$$

Identify the difference of squares:

$$4x^2 - 9$$

$$49x^2 + 36$$

$$4x^2 - 1$$

$$16x^2 - 9x$$

TRY IT!

1. Factor $5x^2 + 9x - 2$

2. Solve $6x^2 + x = 1$

3. Factor

4. Solve

SUMMARY:

Now,
summarize
your notes
here!



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PRACTICE

Check the work! Multiply out the factored form to see if it matches the polynomial.

1. Is $(3x + 1)(4x - 5)$ the factored form of $12x^2 - 11x - 5$?

2. Is $(7h + 4)(h - 7)$ the factored form of $7h^2 - 53h - 28$?

3. Is $(2x - 4)(x - 3)$ the factored form of $2x^2 - 7x - 12$?

4. Is $(2m + 3)(2m - 3)$ the factored form of $4m^2 - 6$?

Factor the following if possible. Check your answer by multiplying!

5. $5x^2 - 9x - 2$

↓CHECK YOUR ANSWER!↓

6. $2m^2 - 11m + 12$

↓CHECK YOUR ANSWER!↓

7. $25p^2 - 81$

↓CHECK YOUR ANSWER!↓

8. $8h^2 - 2h - 3$

↓CHECK YOUR ANSWER!↓

9. $4x^2 - 8x$

↓CHECK YOUR ANSWER!↓

10. $6t^2 + 19t + 3$

↓CHECK YOUR ANSWER!↓

Solve the following by factoring.

11. $3x^2 + 10x - 8 = 0$

12. $0 = 12x^2 - 16x - 3$

Solve the following by factoring.

13. $9g^2 - 1 = 0$

14. $7y^2 - 22y = -3$

15. $12x^2 = -11x - 2$

16. $21 = c^2 + 4c$

18. $2a^2 - 16a = 0$

19. $2x^2 + 1 = 3x$

Answer the following.

20. Simplify
 $(4x^2 - 2x + 1) - (x^2 - 3x + 5)$

21. Multiply $(2x - 3)^2$

22. Solve $\frac{-2}{x} + 5 = 7$

23. Write the equation of the linear function.

x	0	3	9	12
$f(x)$	8	12	20	24

24. Write the equation of the exponential function.

x	0	1	2	3
$f(x)$	120	60	30	15

25. If $f(x) = x^2 - x$, find $2f(-2) - 1$

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WRAP UP

1. Factor $4x^2 - 9$

2. Solve $6x^2 - 13x = 5$

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

(A) $f(x) = (2x - 1)(x + 3)$

(B) $f(x) = (2x - 3)(x + 1)$

(C) $f(x) = (2x + 1)(x + 3)$

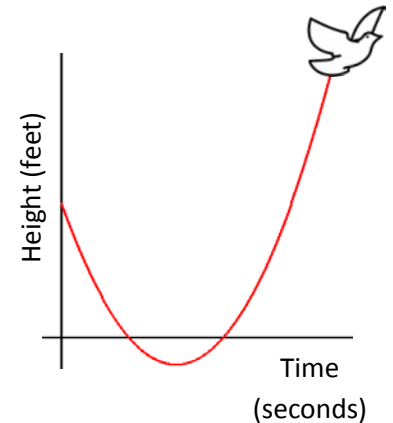
(D) $f(x) = (2x + 3)(x - 1)$

(E) $f(x) = (2x + 1)(x - 3)$

4. 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.

