9.2 Factor Trinomials

NOTES

ALGEBRA

Write your questions here!

SECOND DEGREE TRINOMIALS =

Monomial	Binomial	Trinomial
$6x$	$3x^2 - 5x$	$n^2 + 10n + 16$

MULTIPLY

$(x + 3)(x + 4)$

FACTOR

$x^2 + 8x + 15$

FACTOR THE FOLLOWING. CHECK YOUR ANSWER!

$x^2 - 10x + 21$

$x^2 - 3x - 18$

SOLVE THE FOLLOWING.

DIFFERENCE OF SQUARES

MULTIPLY

$(x + 3)(x - 3)$

FACTOR

$x^2 - 25$

Identify the difference of squares:

$x^2 - 64$ $x^2 + 16$ $x^2 - 12x$ $x^2 - 1$

TRY IT!

1. Factor $x^2 - 2x - 24$	2. Solve $x^2 - 11x + 24 = 0$
3. Factor $x^2 - 81$	4. Solve $x^2 + 4x = 0$
5. Solve	6. Solve

SUMMARY:

Now, summarize your notes here!

9.2 Factor Trinomials

PRACTICE

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

1. Is $(x + 6)(x - 5)$ the factored form of $x^2 - 3x - 30$?	2. Is $(x + 4)(x - 7)$ the factored form of $x^2 - 3x - 28$?
3. Is $(x - 4)(x + 3)$ the factored form of $x^2 - x - 12$?	4. Is $m(m - 3)$ the factored form of $m^2 - 3$?
5. Is $(d - 7)(d - 5)$ the factored form of $d^2 - 12d - 35$?	6. Is $(t + 3)(t - 3)$ the factored form of $t^2 - 9$?

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

7. $x^2 - 2x - 48$

CHECK YOUR ANSWER HERE!

8. $x^2 + 14x + 24$

CHECK YOUR ANSWER HERE!

9. $m^2 - 10m + 16$

CHECK YOUR ANSWER HERE!

10. $p^2 - 4p - 5$

CHECK YOUR ANSWER HERE!

11. $x^2 - 64$

CHECK YOUR ANSWER HERE!

12. $h^2 + 3h - 54$

CHECK YOUR ANSWER HERE!

13. $x^2 - 8x$

CHECK YOUR ANSWER HERE!

14. $x^2 + 2x + 12$

CHECK YOUR ANSWER HERE!

15. $t^2 - 49$

CHECK YOUR ANSWER HERE!

Solve the following by factoring.

16. $x^2 - 4x - 12 = 0$

17. $0 = x^2 + 3x - 40$

18. $2a^2 - 8a = 0$

19. $x^2 + 2x + 1 = 0$

Solve the following by factoring.

20. $g^2 - 16 = 0$

21. $y^2 + 4y = 21$

22. $x^2 = 9x - 18$

23. $42 = c^2 + c$

24. $x^2 + 12x + 20 = 3x$

25. $0 = 2 + h^2 + 3h$

Answer the following.

26. Simplify

$(3x^2 - 2x + 1) - (3x^2 - x + 5)$

27. Multiply $(x + 5)^2$

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

29. Write the equation of the linear function for the situation below.

Bob has 47 dollars and spends 3 dollars every 2 weeks.

30. Write the equation of the exponential function for the situation.

Bob has 47 dollars and doubles his money every 3 weeks.

31. If $f(x) = x^2 - x$, find $2f(3) + 1$

WRAP UP

1. Factor $x^2 - 16$

2. Solve $x^2 - 5x = 24$

3. Which of the following is a factor of both $f(x) = x^2 - 4x - 45$ and $g(x) = x^2 - 25$?

   (A) $(x + 9)$

   (B) $(x + 5)$

   (C) $(x - 9)$

   (D) $(x - 4)$

   (E) $(x - 5)$

4. Mr. Bean starts selling Burly Bean Breakfast Burritos at school in the morning. The equation $p(t) = t^2 - 13t - 30$ represents his profit (money made) over time *t*, measured in days.

   a. Find $p(5)$. Use a sentence to explain its meaning in the context of this problem.

   b. When will Mr. Bean break even (aka when will his profit be zero) ?

EXIT TICKET –

The area of the rectangle shown below is 36 $feet^2$. Find the perimeter of the rectangle.