

Polynomial BINGO

The goal of this activity is for students to practice factoring basic trinomials ($a=1$) and difference of squares binomials. At the beginning of the activity give each student a blank BINGO board and something to use as markers while they play (I like to use Smarties candies but uncooked beans work well too). Give each student a list of the possible factors (or make a transparency). Students should pick out factors that they want to use and write them in the empty spots on their BINGO board, one factor per spot. Each factor should be used only once so students should mark them off the list as they use them. This way each student creates a unique BINGO card. You might want students to make their cards with a colored marker to ensure that there are no changes made during the game.

When the cards have been created the game starts. Start with the first polynomial on the GAME 1 list, $x^2 - 2x - 3$. Write this polynomial on the board or overhead for students to factor. You might want students to work these out on a paper to turn in for points. After students have factored it they should cover up those factors on their BINGO board. Some students might have both factors, some might just have one of the two, or some students might not have any to cover. Don't give out the answers - part of the challenge of winning is being able to factor correctly. Continue down the list of polynomials until a student has 5 in a row, horizontally, vertically, or diagonally. When a student says BINGO have the rest of the class wait to clear their card because the first student might have factored incorrectly and therefore have the wrong factors covered. Check the card carefully. You can then continue and let a few more students BINGO or you can play "blackout" where students have to completely cover all the spots. I usually give bonus points as a reward for winning. If you have students clear their cards and start over just start at a different place on the list or use GAME 2. Before clearing the cards explain the correct answers. I usually make a transparency of the answer key. None of the factors of each game are used more than once.

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BINGO

BINGO				
		FREE		

Factors

$x-8$	$x+1$	$x-3$	$x-1$	$x-35$
$x-15$	$x+5$	$x+7$	$x+3$	$x+2$
$x+17$	$x+13$	$x-2$	$x+14$	$x-5$
$x+4$	$x+10$	$x-25$	$x-20$	$x-19$
$x-4$	$x-18$	$x+6$	$x+16$	$x+60$
$x-6$	$x+30$	$x-10$	$x-7$	$x+12$
$x+25$	$x+9$	$x+35$	$x-17$	$x-9$
$x+11$	$x+15$	$x+8$	$x+20$	$x-40$
$x-12$	$x+18$	$x+40$	$x-14$	$x-11$
$x+50$	$x+33$	$x-13$	$x+19$	$x-16$

Polynomial BINGO

GAME 1

Questions

1. $x^2 - 2x - 3$
2. $x^2 - 2x - 48$
3. $x^2 - 49$
4. $x^2 - 25x + 100$
5. $x^2 + 12x - 28$
6. $x^2 + 19x + 88$
7. $x^2 + 15x + 50$
8. $x^2 - 11x - 60$
9. $x^2 + 20x - 300$
10. $x^2 - 10x + 24$
11. $x^2 + 32x - 33$
12. $x^2 + 19x + 48$
13. $x^2 + 52x + 100$
14. $x^2 - 1225$

15. $x^2 + 29x + 180$

16. $x^2 + 25x + 156$

17. $x^2 - 324$

18. $x^2 + 100x + 2400$

19. $x^2 - 625$

20. $x^2 - 20x + 99$

21. $x^2 - 289$

22. $x^2 - 25x + 156$

23. $x^2 - 361$

24. $x^2 - 30x + 224$

25. $x^2 - 25x - 600$

Polynomial BINGO

GAME 1

Answer Key

- $x^2 - 2x - 3$ $(x + 1)(x - 3)$
- $x^2 - 2x - 48$ $(x - 8)(x + 6)$
- $x^2 - 49$ $(x - 7)(x + 7)$
- $x^2 - 25x + 100$ $(x - 20)(x - 5)$
- $x^2 + 12x - 28$ $(x - 2)(x + 14)$
- $x^2 + 19x + 88$ $(x + 11)(x + 8)$
- $x^2 + 15x + 50$ $(x + 5)(x + 10)$
- $x^2 - 11x - 60$ $(x + 4)(x - 15)$
- $x^2 + 20x - 300$ $(x - 10)(x + 30)$
- $x^2 - 10x + 24$ $(x - 4)(x - 6)$
- $x^2 + 32x - 33$ $(x - 1)(x + 33)$
- $x^2 + 19x + 48$ $(x + 3)(x + 16)$
- $x^2 + 52x + 100$ $(x + 2)(x + 50)$
- $x^2 - 1225$ $(x + 35)(x - 35)$

15. $x^2 + 29x + 180$ $(x + 20)(x + 9)$
16. $x^2 + 25x + 156$ $(x + 13)(x + 12)$
17. $x^2 - 324$ $(x + 18)(x - 18)$
18. $x^2 + 100x + 2400$ $(x + 60)(x + 40)$
19. $x^2 - 625$ $(x + 25)(x - 25)$
20. $x^2 - 20x + 99$ $(x - 9)(x - 11)$
21. $x^2 - 289$ $(x + 17)(x - 17)$
22. $x^2 - 25x + 156$ $(x - 12)(x - 13)$
23. $x^2 - 361$ $(x + 19)(x - 19)$
24. $x^2 - 30x + 224$ $(x - 14)(x - 16)$
25. $x^2 - 25x - 600$ $(x + 15)(x - 40)$

Polynomial BINGO

GAME 2

Questions

1. $x^2 + x - 20$
2. $x^2 + 14x + 24$
3. $x^2 - x - 42$
4. $x^2 + 34x + 33$
5. $x^2 - 400$
6. $x^2 - 15x + 54$
7. $x^2 + 11x + 28$
8. $x^2 - 225$
9. $x^2 - 15x + 36$
10. $x^2 - 121$
11. $x^2 + 6x - 27$
12. $x^2 - 256$
13. $x^2 + 33x - 70$
14. $x^2 - 196$

15. $x^2 + 35x + 250$

16. $x^2 + 90x + 2000$

17. $x^2 - 36x + 35$

18. $x^2 - 169$

19. $x^2 + 90x + 1800$

20. $x^2 - 64$

21. $x^2 - 50x + 400$

22. $x^2 - 30x + 125$

23. $x^2 - 361$

24. $x^2 - 324$

25. $x^2 - 289$

Polynomial BINGO

GAME 2

Answers

- $x^2 + x - 20$ $(x - 4)(x + 5)$
- $x^2 + 14x + 24$ $(x + 2)(x + 12)$
- $x^2 - x - 42$ $(x + 6)(x - 7)$
- $x^2 + 34x + 33$ $(x + 1)(x + 33)$
- $x^2 - 400$ $(x + 20)(x - 20)$
- $x^2 - 15x + 54$ $(x - 6)(x - 9)$
- $x^2 + 11x + 28$ $(x + 4)(x + 7)$
- $x^2 - 225$ $(x - 15)(x + 15)$
- $x^2 - 15x + 36$ $(x - 3)(x - 12)$
- $x^2 - 121$ $(x - 11)(x + 11)$
- $x^2 + 6x - 27$ $(x - 3)(x + 9)$
- $x^2 - 256$ $(x - 16)(x + 16)$
- $x^2 + 33x - 70$ $(x + 35)(x - 2)$
- $x^2 - 196$ $(x - 14)(x + 14)$

15. $x^2 + 35x + 250$ $(x + 10)(x + 25)$
16. $x^2 + 90x + 2000$ $(x + 40)(x + 50)$
17. $x^2 - 36x + 35$ $(x - 1)(x - 35)$
18. $x^2 - 169$ $(x + 13)(x - 13)$
19. $x^2 + 90x + 1800$ $(x + 60)(x + 30)$
20. $x^2 - 64$ $(x + 8)(x - 8)$
21. $x^2 - 50x + 400$ $(x - 10)(x - 40)$
22. $x^2 - 30x + 125$ $(x - 5)(x - 25)$
23. $x^2 - 361$ $(x + 19)(x - 19)$
24. $x^2 - 324$ $(x + 18)(x - 18)$
25. $x^2 - 289$ $(x + 17)(x - 17)$