

Exponent Quiz coming soon!!

20 points

No notes

No calculator



Today's assignment is online.

“Getting Started” and “Algebraic Expressions” will automatically appear on your Webassign dashboard (ebook account) at the beginning of class.

Exponents#1-25

check multiple choice answers

1. **B**

2. **D**

3. **C**

4. **D**

5. **D**

6. **A**

7. **C**

8. **D**

9. **A**

10. **C**

11. **B**

$$(-4)^2 = 16$$

$$\begin{aligned} & 2^{4x - (4x - 1)} \\ &= 2^{4x - 4x + 1} \\ &= 2^1 \end{aligned}$$

23

show work

25

Notes: 1.3

Special Factoring Formulas

Formula	Name
1. $A^2 - B^2 = (A - B)(A + B)$	Difference of squares
2. $A^2 + 2AB + B^2 = (A + B)^2$	Perfect square
3. $A^2 - 2AB + B^2 = (A - B)^2$	Perfect square
4. $A^3 - B^3 = (A - B)(A^2 + AB + B^2)$	Difference of cubes
5. $A^3 + B^3 = (A + B)(A^2 - AB + B^2)$	Sum of cubes

Apply process in reverse to find special
MULTIPLICATION FORMULAS

Other types of factoring that you will use today:

FOIL:

factor: $x^2 - 12x + 27 = (x-3)(x-9)$

Handwritten annotations:
- "add" above the minus sign
- "multiply" above the equals sign
- "F" with an arrow pointing to x^2
- "O" and "I" below the minus sign
- "L" with an arrow pointing to the constant term 27

expand (multiply): $(x+3)(x-7) = x^2 - 4x - 21$

Handwritten annotations:
- A red bracket under $(x+3)(x-7)$ with $+3x$ and $-7x$ written below it, indicating the FOIL process.

GCF:

$$x^2 - 2xy = x(x - 2y)$$

$$5x^2y - 20xy + 15y = 5y(x^2 - 4x + 3)$$

Greatest
Common
Factor

Notes: 1.3

Example #1:

Factor: $x^6 + 8$

$$\underbrace{(x^2)}_a^3 + \underbrace{(2)}_b^3 = (x^2 + 2) \left((x^2)^2 - (x^2)(2) + (2)^2 \right)$$

$$= (x^2 + 2) (x^4 - 2x^2 + 4)$$

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

Diagram illustrating the signs in the sum of cubes formula:

- $a + b$ is circled in purple, with an arrow pointing to it from the label "same sign".
- $a^2 - ab + b^2$ is circled in purple, with an arrow pointing to it from the label "opposite sign".
- The $-ab$ term is circled in purple, with an arrow pointing to it from the label "always +".

Example:

Notes: 1.3

Multiply: $(3x - 1)^2$ using the FOIL method.

$$= (3x - 1)(3x - 1)$$

$$\begin{array}{c} -3x \\ -3x \end{array}$$

$$= 9x^2 - 6x + 1$$

First
Outer
Inner
Last

OR...work backwards and factor using the FOIL method

$$9x^2 - 6x + 1 = (3x - 1)(3x - 1)$$

$$\begin{array}{c} -3x \\ -3x \end{array}$$

The online assignment is due tomorrow. You will need paper to solve many of the problems. Keep your written work so you have something to look at when studying for the unit test!



You get **5 attempts** per problem. The score gets automatically submitted as you answer each question. You can view the saved points at the top of your assignment.

You will earn full credit for attempting all problems and having an overall score of 70% or better.