

Chapter 1: Remember this?

Prime Numbers # only divisible by itself and one.
ex. 2, 3, 5, 7, 11, 13, 17...

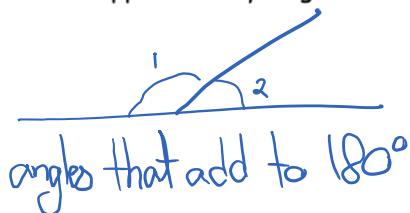
Multiples product of specific # + consecutive #'s.
Ex. 2, 4, 6, 8, ... (mult. of 2).

Factors all values that mult to a specific value.
Ex. 18 $\rightarrow 9 \times 2$ 3×6

Perfect Squares value that is a product of 2 equal values
Ex. $25 = 5 \times 5$

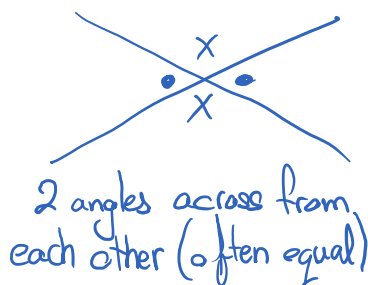
Consecutive Numbers number that increase at same rate.
Ex. 1, 2, 3, 4... Odds 1, 3, 5, 7...

Supplementary Angles

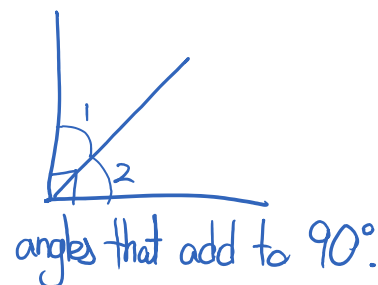


Number Classifications:

Vertically Opposite Angles

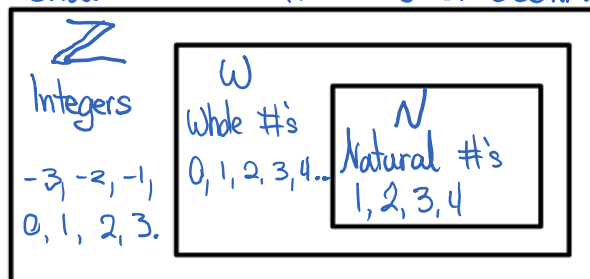


Complimentary Angles



R: Real Numbers.

Q: Rational #'s "fractions or decimals" Q: Irrational Numbers



decimals go on forever w no pattern.
Ex. π $\sqrt{2}$ e

1. Evaluate:

a) 7^2

7×7
 49

b) $(-3)^4$

$-3 \times -3 \times -3 \times -3$
 81

c) $(\frac{1}{2})^3$

$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$
 $\frac{1}{8}$

d) $(-\frac{2}{3})^3$

$-\frac{2}{3} \times -\frac{2}{3} \times -\frac{2}{3}$
 $-\frac{8}{27}$

e) -12^0

-1

2. Evaluate:

a) $\sqrt{64}$

8

b) $\sqrt[3]{64}$

$x \cdot x \cdot x = 64$
 4

c) $\sqrt[4]{-16}$

Does not exist (DNE)

d) $\sqrt{\frac{9}{25}}$

$\frac{\sqrt{9}}{\sqrt{25}} = \frac{3}{5}$

e) $\sqrt[3]{-27}$

-3

3. Simplify.

a) $4(x-5)$

$4x - 20$

b) $(-3x)(2x+1)$

$-6x^2 - 3x$

c) $(x-3)(x+7)$ FOIL

$x^2 + 7x - 3x - 21$
 $x^2 + 4x - 21$

d) $(2x-5)(2x+5)$

$4x^2 + 10x - 10x - 25$
 $4x^2 - 25$

4. Evaluate each expression in #3 if $x=-4$.

a) $4(-4-5)$
 $4(-9)$
 -36

b) $-6(-4)^2 - 3(-4)$
 $-6(16) + 12$
 $-96 + 12$
 -84

c) $(-4)^2 + 4(-4) - 21$
 $16 - 16 - 21$
 -21

d) $4(-4)^2 - 25$
 $4(16) - 25$
 $64 - 25$
 39

5. Factor

- find 2 expressions that mult. to a given expression.

- Look for anything common b/w all terms.

- BINOMIAL - is it a difference of squares?

- TRINOMIAL - 2 #'s that mult to a constant and add to middle coefficient.

a) $2x^2 - 8x$

$2x(x-4)$

b) $x^2 - 81$

$(x+9)(x-9)$

c) $x^2 - 5x - 24$

$(x-8)(x+3)$

$\begin{array}{r} x \\ -8 \times 3 \\ -24 \\ -5 \\ + \end{array}$

d) $x^2 + 8x + 12$

$(x+2)(x+6)$

e) $3x^2 - 5x - 2$

f) $9x^2 + 100$

Not a difference

Does not factor.

$\begin{array}{r} x \\ +2 \times 6 \\ +12 \\ 8 \\ + \end{array}$