1. According to the order of operations, which operation should be performed first to simplify the expression?

$$12 + 2 \cdot 5^2 - 1$$

A $12 + 2$

B $5 - 1$

C $2 \cdot 5$

D 5^2

3. $5.78 \times 10^5 =$

F 57,800,000

G 578,000

H 0.0000578

J 0.00000578

2. Which of the following is *not* a rational number?

F $^-0.75$

G 0

H $\sqrt{4}$

J $\sqrt{15}$

4. Which value is equivalent to $22 - 2^3$?

F 14

G 16

H 20

J 30

5. Between which two whole numbers is $\sqrt{33}$?

F 32 and 34

G 16 and 17

H 6 and 7

J 5 and 6

Terms: 6 x ③x ⑤x^2

Coefficients

Note: ⓧ is the same as ①x.

Like Terms: terms with <u>SAME VARIABLE</u> raised to <u>SAME POWER</u>
coefficients <u>DO NOT</u> have to be the same
constants (<u>naked numbers</u>) are also like terms

Like Terms	3x and 2x	w and w/7	5 and 1.4
Unlike Terms	5x^2 and 2x	6a and 6b	3.2 and x

Exponents are different

Variables are different

One is a constant and one is a variable

What does it mean to be like terms?

1. Must have the same variable... not x and xy.

x and 4x   but not   5x and 6y

2. Must have variable raised to same power ... not x and x^2.
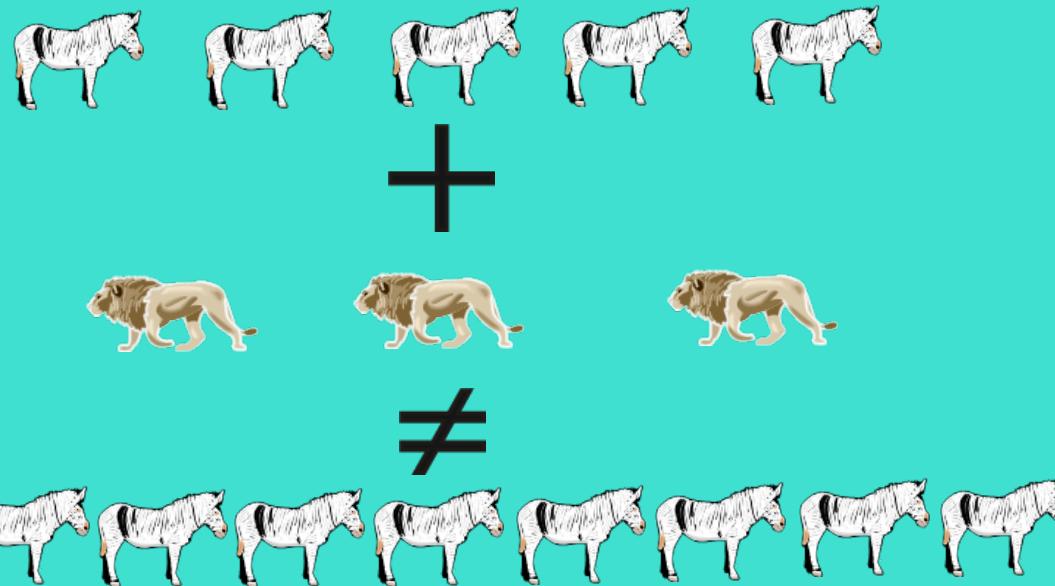
$7x^3$ and $-2x^3$ but not $5x^2$ and $-9x^4$

3. Numbers by themselves are always added together.

8 and -3   but not   -4x and 5

4. Integers are key component here. If you cannot do integers well, you cannot do algebraic expressions.

8x – 3x + 6x + (-3x) – 5x

Real World Example...

Mathematically:

$5Z + 3L \neq 8Z$

Two different variables here.

$5z + 3z = 8z$

Same variables here. Add coefficients.

Simplify each expression.

1) $-6k + 7k$

2) $12r - 8 - 12$

3) $n - 10 + 9n - 3$

4) $-4x - 10x$

5) $-r - 10r$

6) $-2x + 11 + 6x$

7) $11r - 12r$

8) $-v + 12v$

9) $-8x - 11x$

10) $4p + 2p$

11) $5n + 11n$

12) $n + 4 - 9 - 5n$

13) $12r + 5 + 3r - 5$

14) $-5 + 9n + 6$

15) $n - 4 - 9$

16) $4n - n$

17) $-3x - 9 + 15x$

18) $-9k + 8k$

19) $-16n - 14n$

20) $15n - 19n$

Simplify each expression.

1) $-6k + 7k$

k

2) $12r - 8 - 12$

12r - 20

3) $n - 10 + 9n - 3$

10n - 13

4) $-4x - 10x$

-14x

5) $-r - 10r$

-11r

6) $-2x + 11 + 6x$

4x + 11

7) $11r - 12r$

-r

8) $-v + 12v$

11v

9) $-8x - 11x$

-19x

10) $4p + 2p$

6p

11) $5n + 11n$

16n

12) $n + 4 - 9 - 5n$

-4n - 5

13) $12r + 5 + 3r - 5$

15r

14) $-5 + 9n + 6$

9n + 1

15) $n - 4 - 9$

n - 13

16) $4n - n$

3n

17) $-3x - 9 + 15x$

12x - 9

18) $-9k + 8k$

19) $-16n - 14n$

-30n

20) $15n - 19n$

-4n

Glencoe Pre-Algebra Book

Pg. 5 (10-18), (29)

A. $7m-m-8m-7m+4+5m+6m-4m$

B. $17n-15n-14-12n-16-13-12n-12$

C. $5+4x+5-3x-2+5x-7-8x$

D. $25m-22m-2m-22-26m+23m+25m-22m$

A. $7m-m-8m-7m+4+5m+6m-4m$

$-2m +4$

B. $17n-15n-14-12n-16-13-12n-12$

$-22n - 55$

C. $5+4x+5-3x-2+5x-7-8x$

$-2x + 1$

D. $25m-22m-2m-22-26m+23m+25m-22m$

$m - 22$