

2.2 Add and Subtract Real Numbers

ALGEBRA

Write your questions here!

+ ADD! **+**

INTEGERS

$3 + 5$

$-3 + -5$

$3 + -5$

$-3 + 5$

RATIONAL NUMBERS

$7.4 + (-9.5)$

$-\frac{2}{5} + \frac{4}{5}$

$-\frac{3}{8} + \left(-\frac{2}{3}\right)$

$|3 + (-11)|$

$\sqrt{-5 + 30}$

TRY IT!

$-2.3 + (-14.8)$

$\left|-\frac{4}{7} + \frac{1}{3}\right|$

**COMMUTATIVE PROPERTY
OF ADDITION**

**ASSOCIATIVE PROPERTY
OF ADDITION**

SUBTRACT!

INTEGERS

$3 - 5$

$3 - -5$

$-3 - 5$

$-3 - -5$

RATIONAL NUMBERS

$12.4 - (-3.5)$

$-\frac{2}{9} - \frac{4}{9}$

$2\frac{3}{4} - 4$

$|3 - (-14)|$

$\sqrt{39} - 30$

COMMUTATIVE PROPERTY AND ASSOCIATIVE PROPERTY OF SUBTRACTION ???

What about irrational numbers?

Rational + Rational

$2 + \frac{4}{5}$

Rational + Irrational

$2 + \sqrt{3}$

Irrational + Irrational

$\sqrt{7} + \sqrt{2}$

SUMMARY:

Now,
summarize
your notes
here!



Evaluate each expression. Reduce fractions when possible. Leave as improper fractions.			
1. $14 + 9$	2. $-12 - 7$	3. $4 + (-6)$	4. $-10 - (-5)$
5. $ -4 + (-7) $	6. $ -18 - 5 $	7. $34.125 + (-21.4)$	8. $-21 - 3.5$
9. $-\frac{7}{3} + \frac{2}{3}$	10. $\frac{8}{9} - (-\frac{5}{9})$	11. $-\frac{4}{5} + (-\frac{2}{5})$	12. $\frac{1}{2} - \frac{3}{2}$
13. $\frac{2}{5} + \frac{3}{4}$	14. $-\frac{2}{7} - \frac{5}{2}$	15. $-\frac{7}{8} + (-\frac{2}{5})$	16. $2 - (-\frac{5}{4})$
17. $-3\frac{2}{7} - 1\frac{1}{2}$	18. $4\frac{2}{3} + (-3\frac{1}{6})$	19. $ 8 + (-5) + 7$	20. $4 + \sqrt{16 + 9}$

Circle the correct property.

21. $7 + 9 = 9 + 7$ Commutative Property of Addition Associative Property of Addition Neither	22. $7 + 9 + 6 = 7 + 15$ Commutative Property of Addition Associative Property of Addition Neither	23. $(8 + 3) + 1 = 8 + (3 + 1)$ Commutative Property of Addition Associative Property of Addition Neither
24. $a + (9 + b) = (a + 9) + b$ Commutative Property of Addition Associative Property of Addition Neither	25. $x + y = y + x$ Commutative Property of Addition Associative Property of Addition Neither	26. $4(2 + 5) = 8 + 20$ Commutative Property of Addition Associative Property of Addition Neither

Find the error.

27. Mr. Kelly refuses to believe that the associative property doesn't work for subtraction. He works the following problem to "prove" that it does work. He is wrong. Circle the mistake in his "proof". Correct his "proof" by showing that both sides are NOT equal to each other.

$$\begin{aligned}
 9 - (8 - 4) &= (9 - 8) - 4 \\
 9 - 12 &= 1 - 4 \\
 -3 &= -3
 \end{aligned}$$

Evaluate each expression to determine if the answer is a rational number or irrational number.

28. $7 - \sqrt{49}$

Rational

Irrational

29. $|9 - 12| + 2\frac{3}{4}$

Rational

Irrational

30. $12 - \sqrt{7 - 4}$

Rational

Irrational

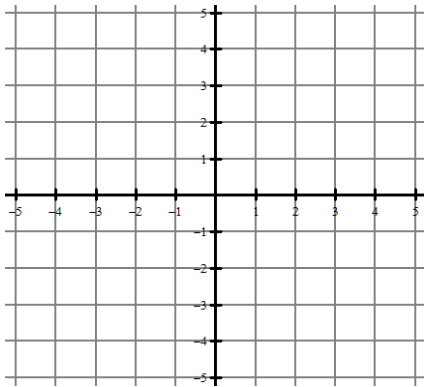
SKILLZ REVIEW

GRAPH

Plot the points:

1. A (-3, -4)

2. B (2, 0)



SIMPLIFY

3. $\frac{-2-3}{0-6}$

4. $\frac{-5-(-3)}{3-8}$

ORDER OF OPERATIONS

5. $4 - 2(3)^2$

6. $2 + 4(-3)$

2.2 Add and Subtract Real Numbers

APPLICATION

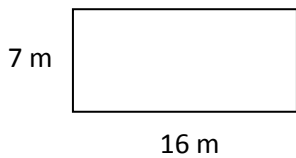
Find the sum or difference.

1. $-5 - (-3) =$

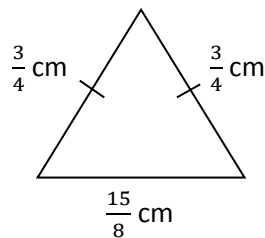
2. $-\frac{1}{2} + \frac{11}{6} =$

Find the perimeter of the following:

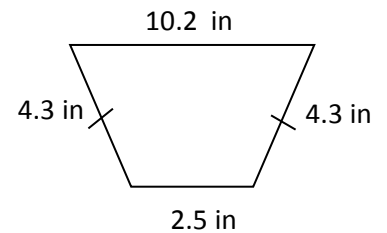
3. Rectangle



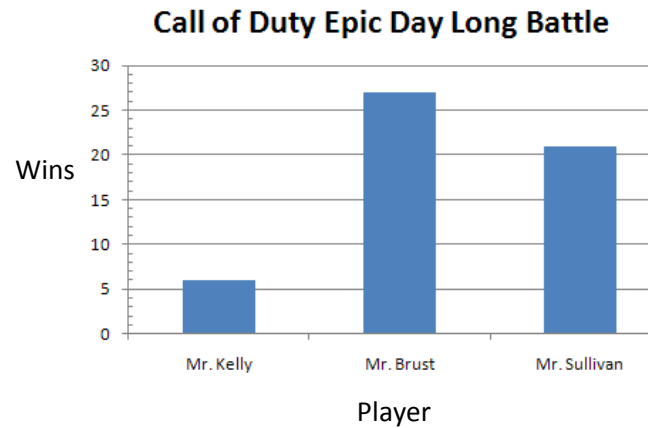
4. Isosceles Triangle



5. Isosceles Trapezoid



6. Mr. Brust, Mr. Kelly, and Mr. Sullivan decide to call in sick and play Call of Duty all day instead. Below is a bar graph showing the results of their epic day long battles. Use the graph to answer the questions.



- a. Who is the best the player? By how much.
- b. How many total games did the math teachers play?

- c. Explain what the expression calculates in this situation.

$$21 - 6$$

7. Given the set of numbers in the domain below, use the function to find the range.

Domain $\{-2.5, -\frac{3}{4}, 0, 4\}$

Function $y = 4 + x$

Range $\{ \quad \quad \quad \}$

8. Which is an example of the sum of a rational number and irrational number being irrational?

A) $\pi + \pi$

B) $\sqrt{3} + \sqrt{9}$

C) $5 + \sqrt{64}$

D) $\pi + \sqrt{2}$

E) $\sqrt{7} + \sqrt{5}$