

1.) The product of c and 5

$$\boxed{5c} \quad \boxed{c * 5}$$

2.) 6 more than the difference between q and m

$$\boxed{(q-m) + 6} \quad b + q - m \quad b + (q - m)$$

3.) 8 less than the sum of b and c .
switch order

$$\boxed{(b+c) - 8}$$

4.) 4 times the quotient of an old tattered teddy bear and a vintage 1860's pipe organ that smells like feet.

4 times the quotient of t and 18.

$$4 * (t \div 18) \quad 4 \left(\frac{t}{18} \right)$$

Order of Operations

Parenthesis

Exponents

MD Mult/Div $L \rightarrow R$

AS Add/Sub $L \rightarrow R$

$$1.) \quad 80 - 60 \div 12 + 10 * (17 - 12)$$

$$80 - \underbrace{60 \div 12} + 10 * 5$$

$$80 - 5 + 10 * 5$$

$$80 - 5 + 50$$

$$75 + 50 = \boxed{125}$$

$$2.) \quad 14 + 6 * 2^3 - 8 \div 2^2$$

$$14 + 6 * 8 - 8 \div 2^2$$

$$14 + 6 * 8 - 8 \div 4$$

$$14 + 48 - 8 \div 4$$

$$14 + 48 - 2$$

$$62 - 2 = \boxed{60}$$

$$3.) \quad 4^2 + 5^2(8-3)$$

$$4^2 + 5^2(5)$$

$$16 + 5^2(5)$$

$$16 + 25(5)$$

$$16 + 125 = \boxed{141}$$

$$4.) \quad (18 + (12 - 10)) \div 4 * 18 - 2^4$$

$$(18 + 2) \div 4 * 18 - 2^4$$

$$20 \div 4 * 18 - 2^4$$

$$20 \div 4 * 18 - 16$$

$$5 * 18 - 16$$

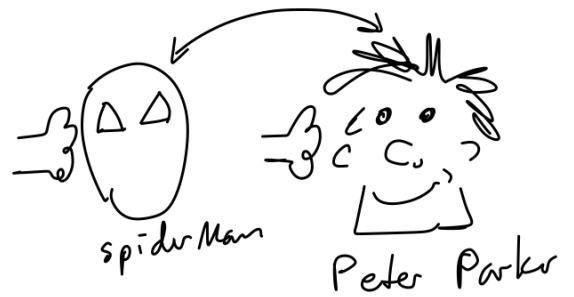
$$90 - 16 = \boxed{74}$$

$$2(7a - b)$$

$$a = 2 \quad b = 6$$

$$2(7(2) - 6)$$

$$2(14 - 6) = 2(8) = \boxed{16}$$



$$3b \div (2a - 1) + 6$$

$$a = 2 \quad b = 6$$

$$3(6) \div (2(2) - 1) + 6$$

$$3(6) \div (4 - 1) + 6$$

$$3(6) \div 3 + 6$$

$$18 \div 3 + 6$$

$$6 + 6 = \boxed{12}$$

48.) $t^2 - s^4$ $s = 3$ $t = 9$ First substitute

$$(9)^2 - (3)^4$$

$$81 - (3)^4 = 81 - 81 = 0$$

50.) $\frac{5s^2}{t}$ $s = 3$ $t = 9$

$$\frac{5(3)^2}{(9)} = \frac{5(9)}{9} = \frac{45}{9} = \boxed{5}$$

1-3 Exploring Real Numbers

Rational

Irrational

A number that can be put into a fraction.

Ratio \rightarrow fraction

A number that cannot be put into a fraction.

Counting Numbers — 1, 2, 3, 4, 5, ...

Whole Numbers — 0, 1, 2, 3, 4, ...
Counting # + 0

Integers — ... -4, -3, -2, -1, 0, 1, 2, 3, 4, ...
all whole numbers and their opposite

Terminal decimal

$$0.35 = \frac{35}{100} = \frac{7}{20}$$

Repeating decimals
single group

$$0.5555\dots = 0.\overline{5} = \frac{5}{9}$$

$$0.\overline{142857} = \frac{1}{7}$$

0.777879... irrational

Perfect Square $\sqrt{36} = 6$

0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, ...
+1 +3 +5 +7 +9 +11 +13 +15 +17 +19 +21
consecutive odd numbers

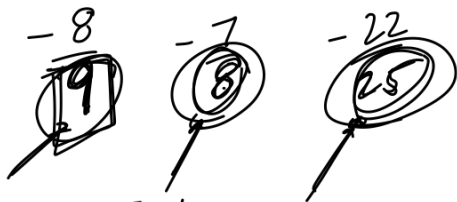
100 + 21 = 121

$\sqrt{90} \rightarrow$ irrational, not a perfect square

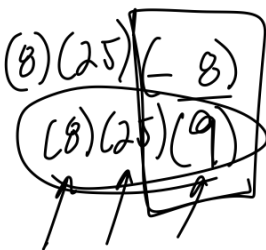
Inequalities

$>$ greater than
 $<$ less than (pointing to left)

in order from least to greatest



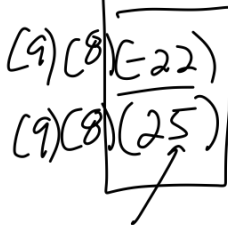
denominators



-1600



-1575 -1584



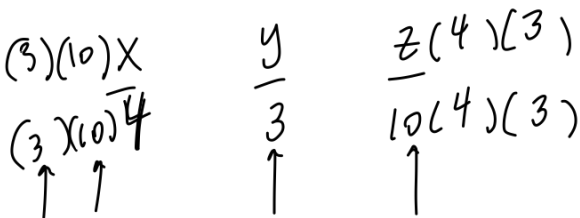
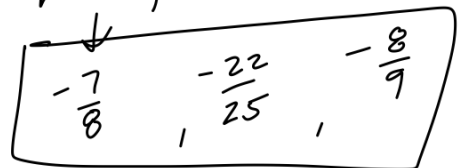
Find common denominator

$$\frac{176}{9} \quad \square \checkmark 8$$

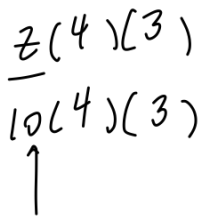
$$\frac{1584}{9} \quad \square \checkmark 9$$

$$\square \checkmark 25$$

-1575, -1584, -1600



$\frac{y}{3}$



$\frac{7}{9}$ rational

3 rational
- counting
- whole
- integer

0.46 rational
terminal decimal

0.3333... rational
repeating decimal

0.43561... irrational

-4 rational
integers

0 rational
whole, integers

$\sqrt{81}$ rational
perfect square

0.262626... rational
repeating

0.787980

Quiz 1 due tonight HW 1-3 evens
Quiz 2 due Sep 29th Online HW (Thurs)
Quiz 3 (Thurs) due Oct 6th