TH-A1 Algebra 1 9/22 Week 3

1.) 8 less than (switch) the sum (+) of b and 9

$b+9-8$ $(b+9)-8$

2.) 12 more than the quotient of 8 and x

$8 \div x + 12$ $\frac{8}{x} + 12$ $12 + (8 \div x)$

3.) The difference (in order) between c and the product (coefficient) of 8 and x

$c-(8*x)$ $c-8x$

4.) The product (*) of 8 and the sum (+) of 14 and y

$8*(14+y)$ $8(14+y)$

5.) 9 less than (switch) t increased by 3

$t+3-9$ $(t+3)-9$

P
E
MD
AS

1.) $4+3(15-2^3)$

$4+3(15-8)$

$4+3(7)$ $4+21=25$

2.) $5+16 \div 2+7*4$

$5+8+7*4$

28

$5+8+28$

$13+28=41$

3.) $8+4^2*12-2^3 \div 8$

$8+16*12-2^3 \div 8$

$8+16*12-8 \div 8$

$8+192-8 \div 8$

$8+192-1$

$200-1=199$

4.) $72 - (5+3)^2 + 4(12-3^2) \div 6$

$72 - 8^2 + 4(12-3^2) \div 6$

$72 - 8^2 + 4(12-9) \div 6$

$72 - 8^2 + 4(3) \div 6$

$72 - 64 + 4(3) \div 6$

$72 - 64 + 12 \div 6$

$72 - 64 + 2$

$8 + 2 = \boxed{10}$

Spider-Man

Peter Parker

Drawing Skills

substitute

$\frac{a+2b}{5}$ $\quad a=1 \quad b=2$

$\frac{1+2(2)}{5}$ $\qquad \frac{1+4}{5} = \frac{5}{5} = \boxed{1}$

$x + 3y^2$ $\quad x = 3 \quad y = 4$

$3y^2$ only y is squared

$(3y)^2$ 3y is squared

$\downarrow$

$3 + 3(4)^2$

$\downarrow$

$3 + 3(16)$

$3 + 48 = \boxed{51}$

1.) $7a - 4(b+2) \quad a = 2 \quad b = 5$

$\downarrow$

$7(2) - 4(5+2)$

$7(2) - 4(7)$

$14 - 28 = \boxed{-14}$

2.) $(a^3 + b^2) \div a \quad a = 3 \quad b = 2$

$\downarrow$

$((3)^3 + (2)^2) \div 3$

$(27 + 4) \div 3$

$31 \div 3 = \boxed{\frac{31}{3}} = 10.\overline{3}$

Properties of Numbers

- Real Numbers
  - Rational
  - Irrational
- Imaginary Numbers

Rational (ratio) - numbers that can be put into a fraction

Irrational - numbers that cannot be put into a fraction

Rational numbers

Counting numbers: 1, 2, 3, 4, ...

whole numbers: 0, 1, 2, 3, 4, ... counting numbers and 0

integers all whole numbers and their opposite

... -3, -2, -1, 0, 1, 2, 3 ...

$0.749\overline{\square} = \frac{749}{1000}$ terminal decimals

$0.7777\ldots = 0.\overline{7} = \frac{7}{9}$ repeating decimal

$0.283283283\ldots$ $\frac{283}{999}$ repeating decimal

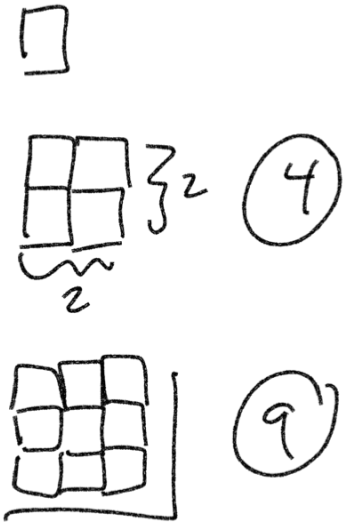
$0.283284285\ldots$ irrational

0.811812813 terminal

Perfect Square
Rational

$\sqrt{1} = 1$ $\sqrt{4} = 2$ $\sqrt{9} = 3$

$1 < 0$
$3 < 1$
$5 < 4$
$7 < 9$
$9 < 16$
$11 < 25$
< 36



$\sqrt{49}$ - rational perfect square

$\sqrt{50}$ - irrational
so not a perfect square