Using the prices below, find a way to buy exactly 100 animals with exactly $100. You must buy at least one of *each* animal.

Cows: $10 each
Pigs: $3 each
Chickens: $.50 each

H) $7e - m - 4w$

$= 7(3) + (+8) - 4(1)$

$= \underline{21 + 8} + {}^-4$

$= 29 + {}^-4$

$= 25$

Z) $-9n^2 + 2n - 7$

$= -9(-1)^2 + 2(-1) - 7$

$= -9 \cdot 1 + (-2) + {}^-7$

$= -9 + (-2) + (-7)$

$= {}^-18$

$-3 \cdot (-4)^2$

$= -3 \cdot 16$

$= -48$

U) $7q - 2d + 3$

$= 7(-7) + 2(1) + 3$

$= -49 + (-2) + 3$

$= {}^-51 + 3$

$= -48$

thru

$-3 \cdot (-4)^2$

$-4 \cdot -4 = 16$

$-3 \cdot 16 = 48$

9/23 Division with Integers

Use integer counters to show:

$+$ $-$

$\boxed{8 \div 2} = 4$

$+$ $+$ $+$ $+$
$+$ $+$ $+$ $+$

Two methods

Divide 8 into 2 equal groups

The answer is how many are in each group

$-12 \div 3$

$-$ $-$ $-$ $-$
$-$ $-$

$-$ $-$ $-$ $-$
$-$ $-$
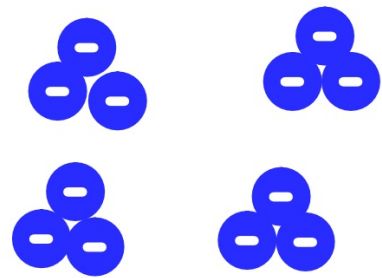
Divide -12 into groups of 3.
The answer is how many groups there are.

Division and Multiplication are inverse operations

so you can rewrite divide equations as multiply equations.

one operation will undo the other.

$$8 \div 2 = 4 \qquad\qquad -12 \div 3 = -4$$

$$2 \cdot 4 = 8 \qquad\qquad 3 \cdot {}^-4 = {}^-12$$

or $\qquad\qquad\qquad$ or

$$4 \cdot 2 = 8 \qquad\qquad {}^-4 \cdot 3 = {}^-12$$

Look at the signs - what are the rules for dividing integers?

(Discuss with your partner)

$$+ \div + = \textcolor{red}{+}$$

$$+ \div - = \textcolor{blue}{-}$$

$$- \div + = \textcolor{blue}{-}$$

$$- \div - = \textcolor{red}{+}$$
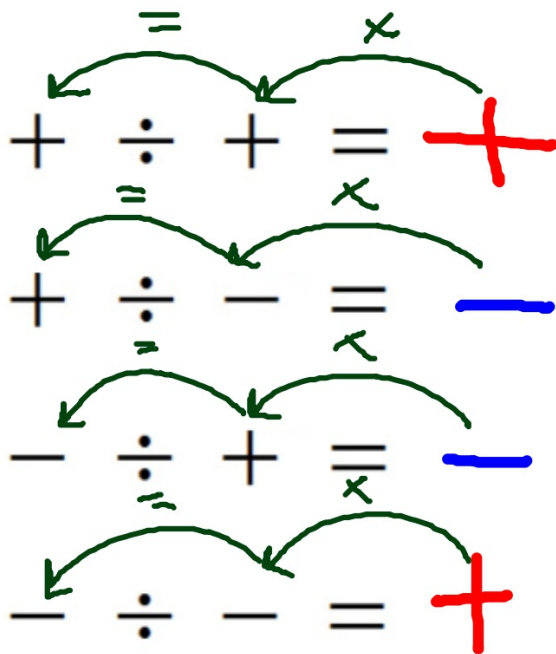
Batman rules wonk!

Divide.

1. $14 \div 2 = 7$

2. $-32 \div (-4) = 8$

3. $-40 \div (-8) = 5$

4. $0 \div (-6) = 0$

5. $\dfrac{-49}{7} = -7$

6. $\dfrac{21}{-3} = -7$

$-6 \div 0 = \boxed{}$

there is no
number that
works but
you need an
answer, so you
write: $\varnothing$

Now some harder ones. Remember to use the Order of Operations!!

$$-4 \cdot \dfrac{18}{-3}$$

$$=-4 \cdot {-6}$$

$$= 24$$

$$-3^2$$
on
$$(-3)^2$$

$$\left(\dfrac{6}{-2}\right)^2$$

$$\div$$

$$= (-3)^2$$
$${-3} \cdot {-3}$$

$$= 9$$

$$-5 \cdot \left(\frac{10}{-5}\right)^3$$

$$= -5 \cdot (-2)^3$$

$$= -5 \cdot -8$$

$$= 40$$

$$-4 \cdot \frac{3 \cdot -8}{6 \cdot -2}$$

$$= -4 \cdot \frac{-24}{-12}$$

$$= -4 \cdot 2$$

$$= -8$$

Homework

Green WS

Due Thursday
end of class