



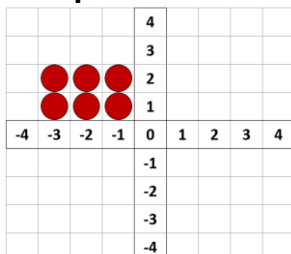
# Multiplying Negative Numbers

## Using Double Sided Counters

1 Calculate each of the following multiplications.

Use the grid for each question to help you. Use yellow and red highlighters or  $\oplus$  and  $\ominus$  symbols to represent the numbers.

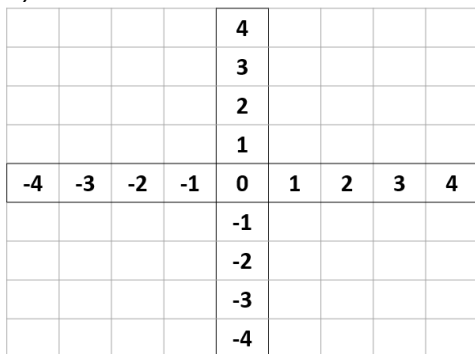
**Example** Calculate  $-3 \times 2$



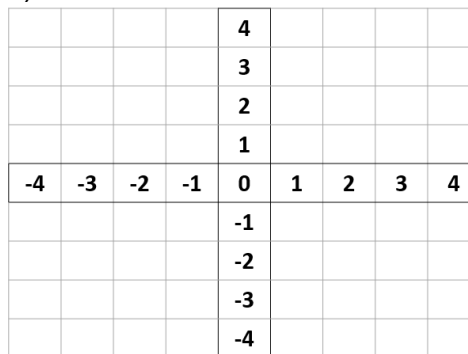
Notice that the counters are negative (red). This is because one of the numbers is negative ( $-3$ ) so the counters will have started positive (yellow) and flipped once.

$$-3 \times 2 = -6$$

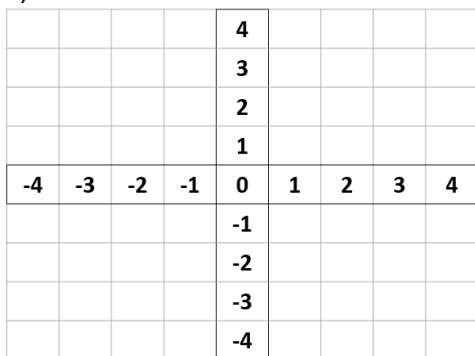
a)  $3 \times 4$



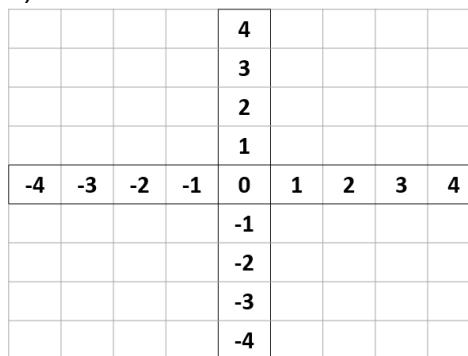
b)  $3 \times -4$



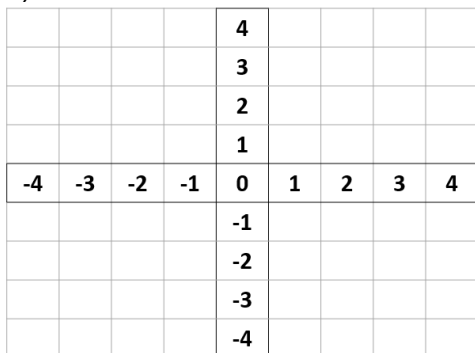
c)  $-3 \times 4$



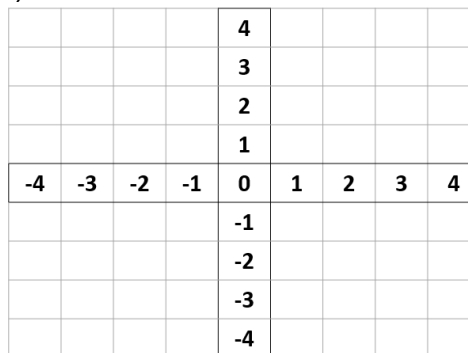
d)  $-3 \times -4$



e)  $2 \times 4$



f)  $2 \times -4$



g)  $-2 \times 4$

				4				
				3				
				2				
				1				
-4	-3	-2	-1	0	1	2	3	4
				-1				
				-2				
				-3				
				-4				

h)  $-2 \times -4$

				4				
				3				
				2				
				1				
-4	-3	-2	-1	0	1	2	3	4
				-1				
				-2				
				-3				
				-4				

i)  $3 \times 2$

				4				
				3				
				2				
				1				
-4	-3	-2	-1	0	1	2	3	4
				-1				
				-2				
				-3				
				-4				

j)  $3 \times -2$

				4				
				3				
				2				
				1				
-4	-3	-2	-1	0	1	2	3	4
				-1				
				-2				
				-3				
				-4				

k)  $-3 \times 2$

				4				
				3				
				2				
				1				
-4	-3	-2	-1	0	1	2	3	4
				-1				
				-2				
				-3				
				-4				

l)  $-3 \times -2$

				4				
				3				
				2				
				1				
-4	-3	-2	-1	0	1	2	3	4
				-1				
				-2				
				-3				
				-4				

Using the answers from above, write down if your answers in each part of the grid are positive or negative.

m) When the answer is in the **top right** of the grid, is it positive or negative?

n) When the answer is in the **top left** of the grid, is it positive or negative?

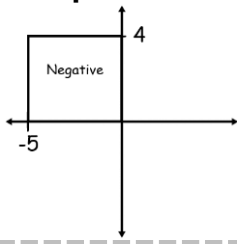
o) When the answer is in the **bottom right** of the grid, is it positive or negative?

p) When the answer is in the **bottom left** of the grid, is it positive or negative?

q) Will your answers to parts m) to p) always be true?

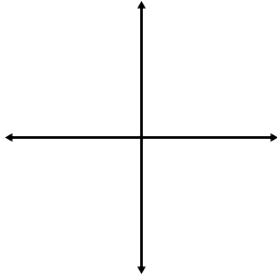
- 2 For each multiplication below, show which part of the grid the answer will be in. Then say if the answer will be positive or negative. An example is shown below.

**Example**  $-5 \times 4$

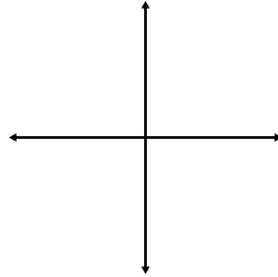


**$-5 \times 4$  will be negative.**

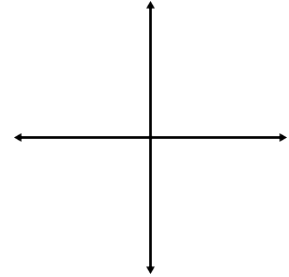
a)  $3 \times 5$



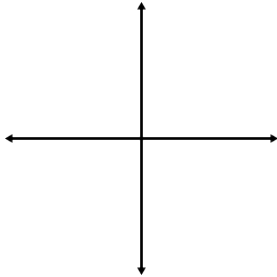
b)  $-3 \times 5$



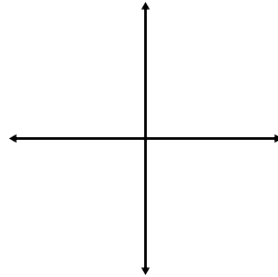
c)  $-3 \times -5$



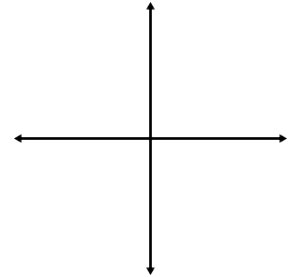
d)  $6 \times 5$



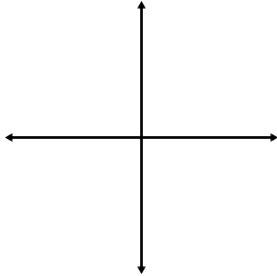
e)  $-6 \times 5$



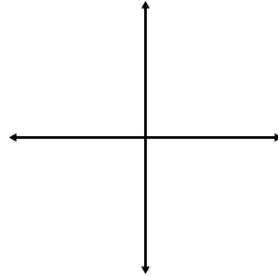
f)  $-6 \times -5$



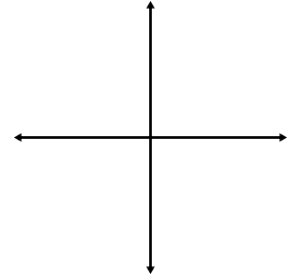
g)  $9 \times 4$



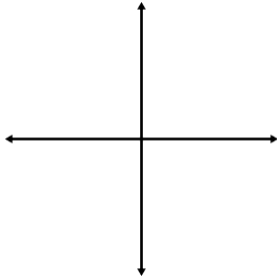
h)  $9 \times -4$



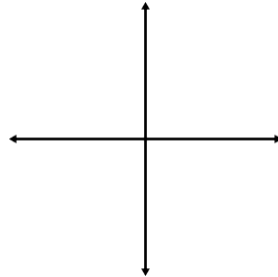
i)  $-9 \times -4$



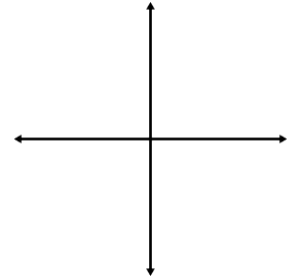
j)  $\times 5$



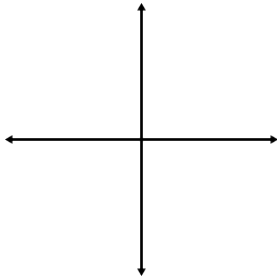
k)  $-3 \times 5$



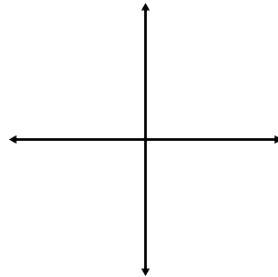
l)  $-3 \times -5$



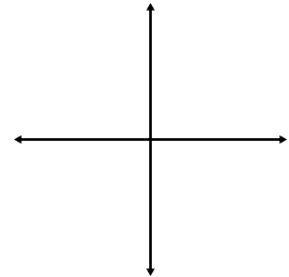
m)  $16 \times -14$



n)  $-1.6 \times 14$



o)  $-1.6 \times -1.4$



**3** Calculate each of following.

Each set of four parts are related.

a)  $4 \times 4$

b)  $4 \times -4$

c)  $-4 \times 4$

d)  $-4 \times -4$

e)  $4 \times 6$

f)  $4 \times -6$

g)  $-4 \times 6$

h)  $-4 \times -6$

i)  $3 \times 7$

j)  $3 \times -7$

k)  $-3 \times 7$

l)  $-3 \times -7$

m)  $9 \times 7$

n)  $9 \times -7$

o)  $-9 \times 7$

p)  $-9 \times -7$

q)  $10 \times 7$

r)  $10 \times -7$

s)  $-10 \times 7$

t)  $-10 \times -7$

u)  $12 \times 10$

v)  $12 \times -10$

w)  $-12 \times 10$

x)  $-12 \times -10$

y)  $24 \times 11$

z)  $24 \times -11$

aa)  $-24 \times 11$

bb)  $-24 \times -11$

cc)  $24 \times 220$

dd)  $24 \times -220$

ee)  $-24 \times 220$

ff)  $-24 \times -220$

**4** Calculate each of following.

Each set of four parts are related.

a)  $6 \times 1.5$

b)  $6 \times -1.5$

c)  $-6 \times 1.5$

d)  $-6 \times -1.5$

e)  $12 \times 2.5$

f)  $12 \times -2.5$

g)  $-12 \times 2.5$

h)  $-12 \times -2.5$

i)  $2.4 \times 2.5$

j)  $2.4 \times -2.5$

k)  $-2.4 \times 2.5$

l)  $-2.4 \times -2.5$

m)  $0.24 \times 2.5$

n)  $0.24 \times -2.5$

o)  $-0.24 \times 2.5$

p)  $-0.24 \times -2.5$

q)  $0.24 \times \frac{1}{4}$

r)  $0.24 \times -\frac{1}{4}$

s)  $-0.24 \times \frac{1}{4}$

t)  $-0.24 \times -\frac{1}{4}$

u)  $\frac{12}{100} \times \frac{1}{4}$

v)  $\frac{12}{100} \times -\frac{1}{4}$

w)  $-\frac{12}{100} \times \frac{1}{4}$

x)  $-\frac{12}{100} \times -\frac{1}{4}$