S.M.ART School **MBA3 Homework for MS20 due 02-01-24**

Is it a TRUE statement? Explain.

I1 If $a^2 * b \geq 0$, then $b \geq 0$.

I2 If $a^2 / b \leq 0$, then $b < 0$.

Solve inequalities

I3 $3*x - 12 < -5$

I4 $-3*x - 12 < -5*x + 12$

I5

If $x - 4$ is 5 greater than y, then $x - 1$ is how much greater than y?

I6 $a > b$ and $a*b < 0$. Compare 0 versus a

A) $0 < a$

B) $0 > a$

C) $0 = a$

D) Cannot be determined.

Solve by factoring left side of equation

E1 $x^2 - 6*x - 72 = 0$

E2 $-x^2 - 7*x + 60 = 0$

Definitions (we talked about it before)

Set C is a **superset** of sets A and B if and only if C consists of all elements that belong to both sets, set A and set B.
In other words, superset is a common part of set A and set B.

Set C is a **union** of sets A and B if and only if it consists of all elements that belong to either of set A or set B, or to both.
In other words, union consists of all elements that belong to either set or set B.

A1 Set A is a set of all whole numbers divisible by 5. Set B is a set of all whole numbers divisible by 7.

1. Describe the set which is a union of set A and set B.

2. Describe the set which is superset of set A and set B.

If you have two inequalities then it is a system, if and only if variables in both inequalities have the same values.

To solve a system of two inequalities means to describe the sets of values of each of the variables entering those inequalities for which BOTH inequalities are True.

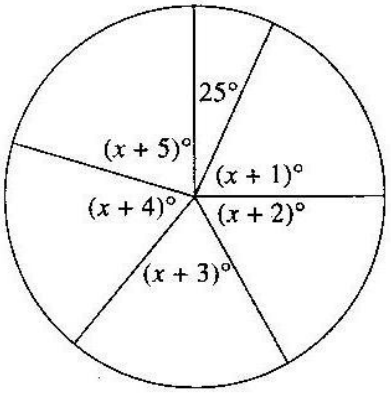
S1 Solve a system of inequalities

$2*x > -3$ AND $1 + 3*x < 6$

S2 Solve a system of inequalities

$2*x + 3 > -3*x$ AND $1 + 3*x < -x + 6$

Q1



What is the value of x in the figure above?

Q2 Let A be the set of primes less than 6, and B be the set of positive odd numbers less than 6. How many different sums of the form (a + b) is possible if a is in A and b is in B?

A) 6
B) 7
C) 8
D) 9
E) 10

W1 When "Shaw's" sell coffee they make 8% profit. It means when they buy coffee from a wholesale company and pay $100.00, they sell this amount for $108. If they made $720 dollars selling a box of coffee how much did they pay to the whole seller?