## Algebraic Inequialities

| Simple | Ineualitice | Inequalites | Stupid <br> cuesions | Graphs |
| :---: | :---: | :---: | :---: | :---: |
| 100 | 100 | 100 | 100 | 100 |
| 200 | 200 | 200 | 200 | 200 |
| 300 | 300 | 300 | 300 | 300 |
| 400 | 400 | 400 | 400 | 400 |

## $\square \quad \square$ Player A $\square$

## Simple Inequalities for 100.

Which of the following inequalities is NOT true?

$$
\begin{array}{|l|l|}
\hline \mathrm{a} & -2<-1 \\
\hline \mathrm{~b} & 101>97 \\
\hline \mathrm{c} & 3 / 4>2 / 5 \\
\hline \mathrm{~d} & -2 / 3<-1 \\
\hline \mathrm{e} & -2 / 3>-2
\end{array}
$$

## Simple Inequalities for 200.

Which of the following inequalities is ALWAYS true?

$$
\begin{array}{|l|l}
\mathrm{a} & x+1>0 \\
\hline \mathrm{~b} & x-1<0 \\
\hline \mathrm{c} & x<2 x \\
\mathrm{~d} & x^{2}+1>0 \\
\hline \mathrm{e} & -x<x \\
\hline
\end{array}
$$

## Simple Inequalities for 300.

Which of the following inequalities is true for $x=-1$ ? musica

$$
\begin{array}{l|l}
\hline \mathrm{a} & x>0 \\
\hline \mathrm{~b} & x+1>0 \\
\hline \mathrm{c} & -x<0 \\
\mathrm{~d} & x^{2}> \\
\mathrm{e} & x^{2}>1
\end{array}
$$

## Simple Inequalities for 400.

Assume $0>y$. Which of the following is true for all $y$ ?

$$
\begin{array}{|l|l}
\hline \mathrm{a} & y^{2}<0 \\
\hline \mathrm{~b} & y+2<0 \\
\hline \mathrm{c} & -3 y<y \\
\mathrm{~d} & -3 y<-5 y \\
\hline \mathrm{e} & y^{2}<y
\end{array}
$$

## Inequalities with $x$ for 100 .

Solve $x+2>-2$

| a | $x>0$ |
| :--- | :--- |
| b | $x<0$ |
| c | $x>4$ |
| d | $x>-4$ |
| e | $x<4$ |

## Inequalities with $x$ for 200 .

Solve $-x+3>-2$

| a | $x>1$ |
| :--- | :--- |
| b | $x<5$ |
| c | $x>-5$ |
| d | $x>5$ |
| e | $x<-1$ |

## Inequalities with $x$ for 300 .

Solve $-3 x+3>-2 x+1$

$$
\begin{array}{|l|l}
\hline \mathrm{a} & x>2 \\
\cline { 1 - 1 } & x<4 \\
\cline { 1 - 2 } & x>4 \\
\mathrm{c} & x> \\
\mathrm{d} & x<2 \\
\cline { 1 - 2 } & x<-4 \\
\hline
\end{array}
$$

Inequalities with $x$ for 400 .
Solve $|x+3|>1$

$$
\begin{array}{ll}
\mathrm{a} & x>0 \\
\mathrm{~b} & x>-2 \\
\mathrm{c} & x<2 \text { or } x>-2 \\
\mathrm{c} & x<-4 \text { or } x>-2 \\
\mathrm{~d} & x<-4 \text { or } x>-4
\end{array}
$$

## Inequalities with $x$ and $y$ for 100 .

Which of the following inequalities is always true?

$$
\begin{array}{l|l}
\mathrm{a} & x<y \\
\mathrm{~b} & x^{2}>y \\
\hline \mathrm{c} & (x y)^{2}>-2 \\
\mathrm{~d} & x+y>y \\
\mathrm{e} & x y>0
\end{array}
$$

Inequalities with $x$ and $y$ for 200.
Which of the following inequalities is satisfied by the point $x=10 y=-1$ ?

$$
\begin{array}{|l|l}
\hline \mathrm{a} & x<y \\
\hline \mathrm{~b} & x<y+8 \\
\hline \mathrm{c} & x^{2}<y+1 \\
\hline \mathrm{~d} & -x>y \\
\hline \mathrm{e} & -x<y+8 \\
\hline
\end{array}
$$

Inequalities with $x$ and $y$ for 300 .
Which of the following inequalities is satisfied by the point $x=-5 y=2$

$$
\begin{array}{|lll}
\hline \mathrm{a} & -x<y \\
\hline \mathrm{~b} & 2 x>y \\
\hline \mathrm{c} & x^{2}>10 y \\
\mathrm{~d} & -x>10 y \\
\mathrm{~d} & -5 x<y \\
\hline
\end{array}
$$

## Inequalities with $x$ and $y$ for 400.

Which is true for $x=-2 y=-2$

$$
\begin{array}{l|l}
\hline \mathrm{a} & -x<y \\
\mathrm{~b} & 2 x>y \\
\hline \mathrm{c} & 5 x y+3>21 \\
\mathrm{~d} & -7 x+2>-10 y-3 \\
\mathrm{e} & -5 x+10<12 y+11
\end{array}
$$

## Stupid questions for 100.

Let $x=y=0$. Which inequality is true?

$$
\begin{array}{l|l}
\hline \mathrm{a} & x+y>0 \\
\hline \mathrm{~b} & x y>0 \\
\mathrm{c} & 12 x y+5<16+x \\
\mathrm{~d} & -23 x+y>-14 y+x \\
\mathrm{e} & x-y>0
\end{array}
$$

## Stupid questions for 200.

Let $x=y=1$. Which inequality is true?

$$
\begin{array}{l|l}
\mathrm{a} & x>y \\
\hline \mathrm{~b} & x+1<y+1 \\
\hline \mathrm{c} & -7 x>12 y \\
\mathrm{~d} & x-y<1 \\
\mathrm{e} & x+y>2
\end{array}
$$

Stupid questions for 300.
Let $x=1$. Which inequality is true for all $y$ ?

$$
\begin{array}{|l|l}
\hline \mathrm{a} & y>x \\
\hline \mathrm{~b} & y^{2}>x \\
\hline \mathrm{c} & x-y<-y+1 \\
\hline \mathrm{~d} & x y>2 y \\
\hline \mathrm{e} & y^{2}+2>x
\end{array}
$$

## Stupid questions for 400.

Let $x<0$ and $y>0$. Which inequality is true?

$$
\begin{array}{l|l}
\hline \mathrm{a} & x y>0 . \\
\hline \mathrm{b} & x-y>0 \\
\hline \mathrm{c} & x<-y \\
\hline \mathrm{~d} & x / y>0 . \\
\hline \mathrm{e} & x^{2} y>0
\end{array}
$$

## Graphs for 100.

The inequality $y<x$ is solved by:
a Points on the line $y=x$
b Points above the line $y=x$
c Points on the line $y=-x$
d Points below the line $y=x$
e Only the point $(0,0)$

## Graphs for 200.

The inequality $y>-2 x+3$ is solved by:
a Points above the line $y=2 x-3$
b Points on the line $y=-2 x+3$
c Points above the line $y=-2 x+3$
d Points on the line $y=-2 x+3$
e Points below the line $y=-2 x+3$

## Graphs for 300.

The inequality $-2 y>4 x-4$ is solved by:
a Points on the line $y=-2 x+2$
b Points below the line $y=-2 x-2$
c Points above the line $y=-2 x-2$
d Points above the line $y=-2 x+2$
e Points below the line $y=-2 x+2$

## Graphs for 400.

All graphs $y=\log _{a} x$ always pass through:
a Points $(0,0)$ and $(1,1)$
b Points $(a, 0)$ and $(1, a)$
c Points $(1,0)$ and $(a, 1)$
d Points $(0,1)$ and $(a, 1)$
e None of the above

