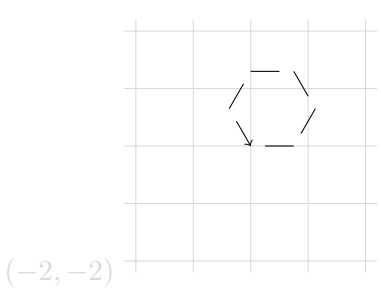
## Info 1 Midterm 2 retake, Fall 2023

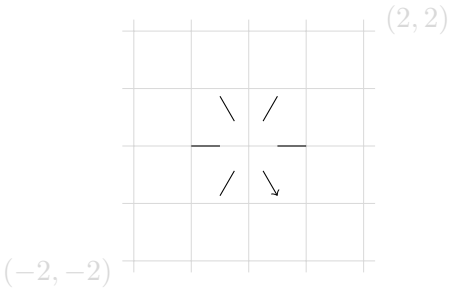
Name* Neptun code*

**1.**

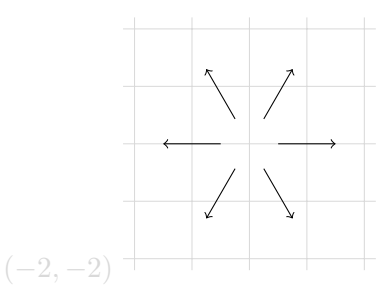
(A)



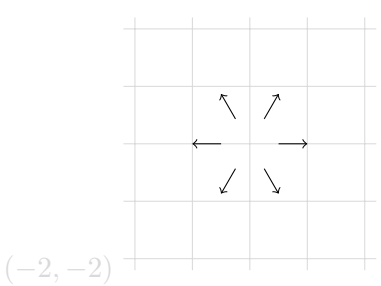

(B)




(C)




(D)




(E) `wrong source`

| Source | Output |
|---|---|
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!30](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\draw[->] (0,0) foreach \x in {0,60,...,300}`<br>`  { (\x:0.5) -- (\x:1) } ;`<br>`\end{tikzpicture}` | B |
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!30](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\foreach \x in {0,60,...,300}`<br>`  {\draw[->] ++(\x:0.5) -- ++(\x:1) ; }`<br>`\end{tikzpicture}` | C |

| | |
|---|---|
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!30](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\foreach \x in {0,60,...,300}`<br>`  {\draw[->] ++(\x:0.5) -- ++(\x:1) } ;`<br>`\end{tikzpicture}` | E |
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!30](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\foreach \x in {0,60,...,300}`<br>`  {\draw[->] (\x:0.5) -- (\x:1) ; }`<br>`\end{tikzpicture}` | D |
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!30](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\draw[->] (0,0) foreach \x in {0,60,...,300}`<br>`  { ++(\x:0.25) -- ++(\x:0.5) } ;`<br>`\end{tikzpicture}` | A |

**2.** (A) `<no result>` (B) `False` (C) `<wrong source>`

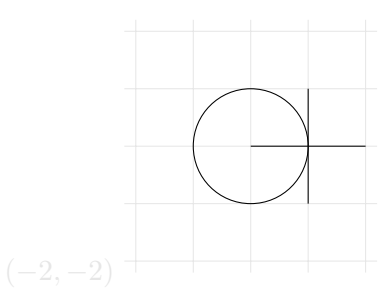
| Source | Output |
|---|---|
| `a=3` | A |
| `3=4` | C |
| `3==4` | B |

**3.** (A) `[x == -sqrt(2), x == sqrt(2)]` (B) `[x == -sqrt(2)]` (C) `<wrong source>`

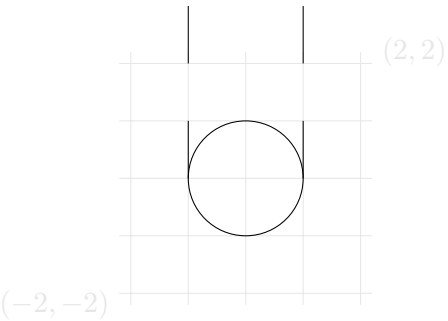
| Source | Output |
|---|---|
| `solve(x^2-2,x)` | A |
| `assume(x<0); solve(x^2-2,x)` | B |
| `suppose(x<0); solve(x^2-2,x)` | C |

**4.**

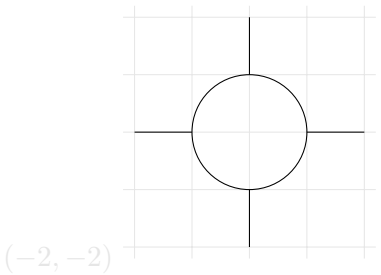
(A)



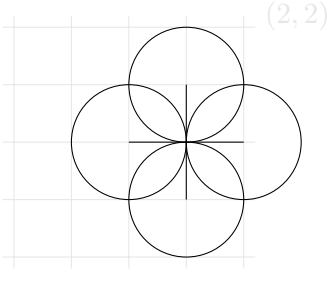

(B)



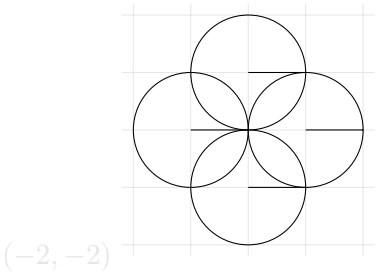

(C)




(D)




(E)




| Source | Output |
|---|---|
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!20](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\foreach \x in {0,90,...,270}`<br>`  {\draw[shift={(\x:1)}] circle(1) -- (1,0);}`<br>`\end{tikzpicture}` | E |
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!20](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\draw circle(1);`<br>`\foreach \x in {0,90,...,270}`<br>`  {\draw[rotate around={\x:(1,0)}] (1,0) -- (2,0);}`<br>`\end{tikzpicture}` | A |

| | |
|---|---|
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!20](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\draw circle(1);`<br>`\foreach \x in {0,90,...,270}`<br>`  {\draw[rotate around={90:(\x:1)}] (1,0) -- (2,0);}`<br>`\end{tikzpicture}` | B |
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!20](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\foreach \x in {0,90,...,270}`<br>`  {\draw[rotate around={\x:(1,0)}]`<br>`  circle(1) -- (1,0);}`<br>`\end{tikzpicture}` | D |
| `\begin{tikzpicture}`<br>`  \draw[very thin, gray!20](-2.2,-2.2)`<br>`  node[below,left]{$(-2,-2)$}`<br>`  grid (2.2,2.2) node[above,right]{$(2,2)$};`<br>`\draw circle(1);`<br>`\foreach \x in {0,90,...,270}`<br>`  {\draw[rotate = \x] (1,0) -- (2,0);}`<br>`\end{tikzpicture}` | C |

**5.** Let `m = matrix([[1,2,3],[4,5,6],[7,8,9]])`.

(A) `(7, 8, 9)` (B) `(2, 5, 8)` (C) `(4, 5, 6)` (D) `<wrong source>`

| Source | Output |
|---|---|
| `m.row(2)` | A |
| `m.column(1)` | B |
| `m.row[1]` | D |
| `m[1]` | C |