Informatics 1 **Midterm 2, Fall 2025**

NAME* NEPTUN CODE*

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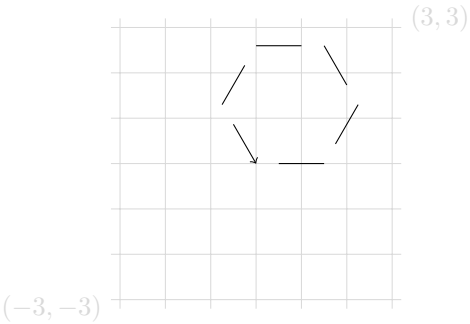
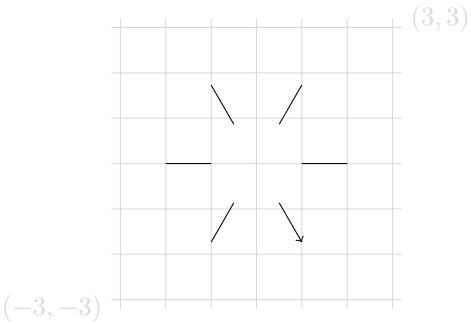
1.

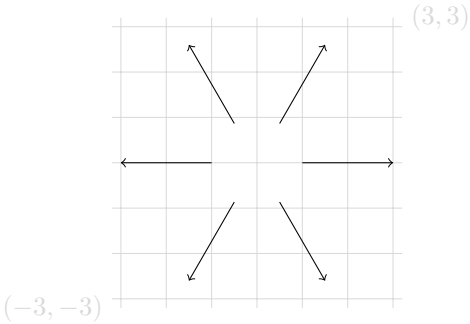
(A)



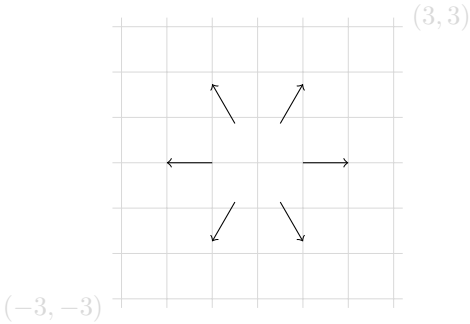
(B)



(C)



(D)



(E) `wrong source`

Source	Result

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-3.2,-3.2) node[below,left]{$(-3,-3)$}`
` grid (3.2,3.2) node[above,right]{$(3,3)$};`
` \foreach \x in {0,60,...,300}`
`  {\draw[->] (\x:1) -- (\x:2) ; }`
`\end{tikzpicture}`
	D

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-3.2,-3.2) node[below,left]{$(-3,-3)$}`
` grid (3.2,3.2) node[above,right]{$(3,3)$};`
` \draw[->] foreach \x in {0,60,...,300}`
`  { (\x:1) -- (\x:2) } ;`
`\end{tikzpicture}`
	B

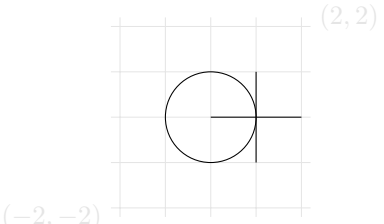
`\begin{tikzpicture}`
` \draw[very thin, gray!30](-3.2,-3.2) node[below,left]{$(-3,-3)$}`
` grid (3.2,3.2) node[above,right]{$(3,3)$};`
` \foreach \x in {0,60,...,300}`
`  {\draw[->] (\x:1) -- ++(\x:2) ; }`
`\end{tikzpicture}`
	C

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-3.2,-3.2) node[below,left]{$(-3,-3)$}`
` grid (3.2,3.2) node[above,right]{$(3,3)$};`
` \foreach \x in {0,60,...,300}`
`  {\draw[->] (\x:1) -- ++(\x:2) } ;`
`\end{tikzpicture}`
	E

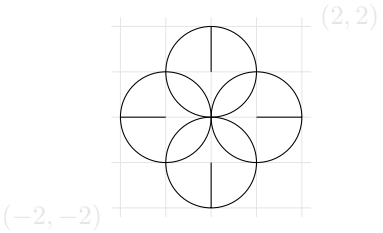
`\begin{tikzpicture}`
` \draw[very thin, gray!30](-3.2,-3.2) node[below,left]{$(-3,-3)$}`
` grid (3.2,3.2) node[above,right]{$(3,3)$};`
` \draw[->] (0,0) foreach \x in {0,60,...,300}`
`  { ++(\x:0.5) -- ++(\x:1) } ;`
`\end{tikzpicture}`
	A

2.

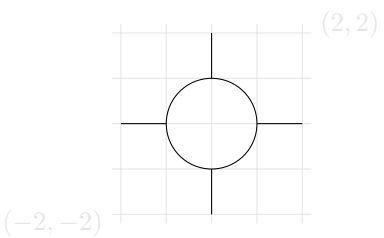
(A)



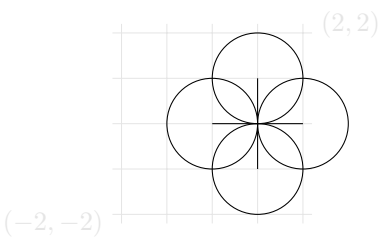
(B)



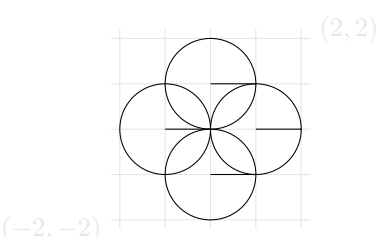
(C)



(D)



(E)



(F) `wrong source`

Source	Result

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

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

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

`\begin{tikzpicture}`
` \draw[very thin, gray!20](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
` grid (2.2,2.2) node[above,right]{$(2,2)$};`
` \draw [shift={(\x:1)}] foreach \x in {0,90,...,270}`
`  { (0,0) circle(1) -- (1,0) ;}`
`\end{tikzpicture}`
	F

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

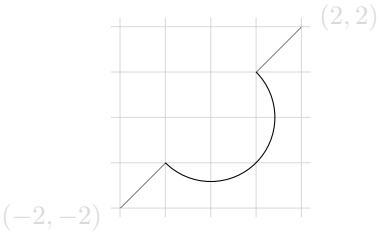
`\begin{tikzpicture}`
` \draw[very thin, gray!20](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
` grid (2.2,2.2) node[above,right]{$(2,2)$};`
` \draw (0,0) circle(1);`
` \foreach \x in {0,90,...,270}`
`  {\draw[rotate around={\x:(1,0)}] (1,0) -- (2,0); }`
`\end{tikzpicture}`
	A

3. (A) `[x == -sqrt(2), x == sqrt(2)]` (B) `1.41421356237310` (C) `[x == -sqrt(2)]` (D) `-1.4142135623730951` (E) `<wrong source>`

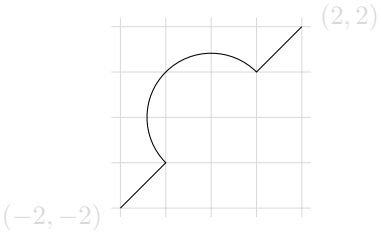
Source	Result
`find_root(x^2-2,-2,0)`	D
`suppose(x<0); solve(x^2-2,x)`	E
`solve(x^2-2,x)[1].rhs().n()`	B
`solve(x^2-2,x)`	A
`assume(x<0); solve(x^2-2,x)`	C

4.

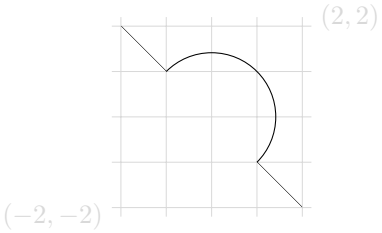
(A)



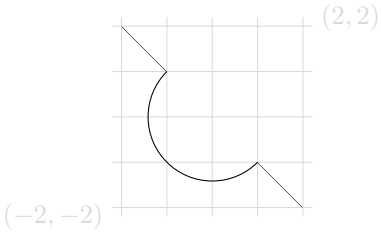
(B)



(C)



(D)



Source	Result

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$} ;`
`  \clip (2,-2) -- (-2,2) -- (2,2) --cycle ;`
`  \draw (2,-2) -- ++(-1, 1) (0,0)`
`  circle({sqrt(2)}) (-2,2) -- ++(1,-1);`
`\end{tikzpicture}`
	C

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$} ;`
`  \clip (2,-2) -- (-2,2) -- (-2,-2) --cycle ;`
`  \draw (2,-2) -- ++(-1, 1) (0,0)`
`  circle({sqrt(2)}) (-2,2) -- ++(1,-1);`
`\end{tikzpicture}`
	D

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$} ;`
`  \clip (-2,-2) -- ++(4,0) -- ++(0,4) --cycle ;`
`  \draw (-2,-2) -- ++(1, 1) (0,0)`
`  circle({sqrt(2)}) (1,1) -- ++(1,1);`
`\end{tikzpicture}`
	A

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$} ;`
`  \draw (-2,-2) -- ++(1,1)`
`  arc (225:45:{sqrt(2)}) -- ++(1,1);`
`\end{tikzpicture}`
	B