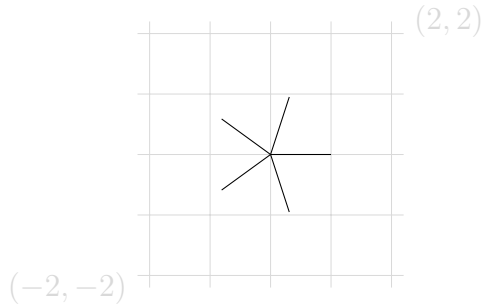
Informatics 1 Midterm retake 2, Fall 2024

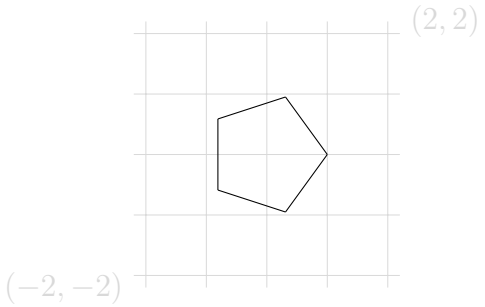
NAME* NEPTUN CODE* *000*

1.

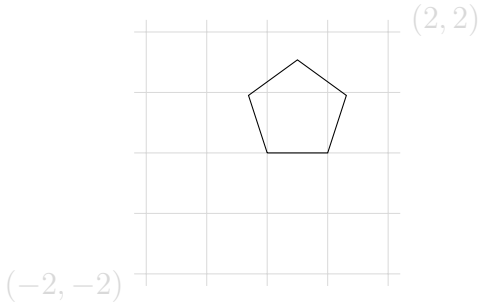
(A)



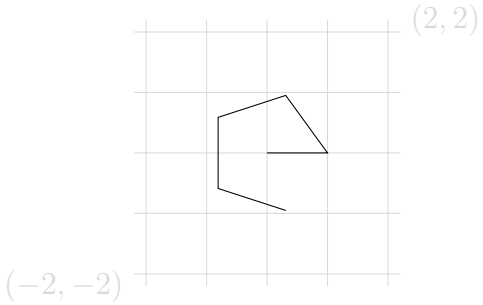
(B)



(C)



(D)



(E) `wrong source`

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]{$(2,2)$};`
`  \draw (0,0) foreach \x in {0, 72, ...,288} {`
`  --++(\x:1) ;}`
`\end{tikzpicture}`	

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$};`
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`\end{tikzpicture}`	

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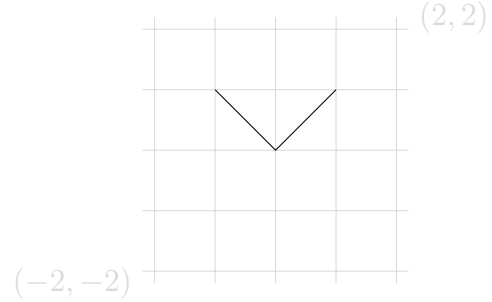
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$};`
`\foreach \x in {0, 72, ...,288} {`
`  \draw (\x:1) -- (72+\x:1);}`
`\end{tikzpicture}`	

`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$};`
`\foreach \x in {0, 72, ..., 288} {`
`  \draw (0,0) -- (\x:1);}`
`\end{tikzpicture}`	

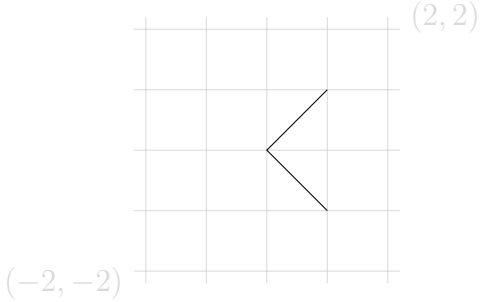
`\begin{tikzpicture}`
` \draw[very thin, gray!30](-2.2,-2.2) node[below,left]{$(-2,-2)$}`
`  grid (2.2,2.2) node[above,right]{$(2,2)$};`
`  \draw (0,0) foreach \x in {0, 72, ...,288} {`
`  --++(\x:1) };`
`\end{tikzpicture}`	

2.

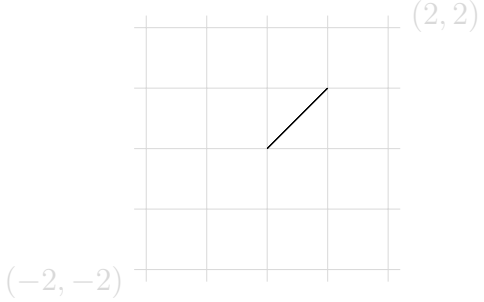
(A)



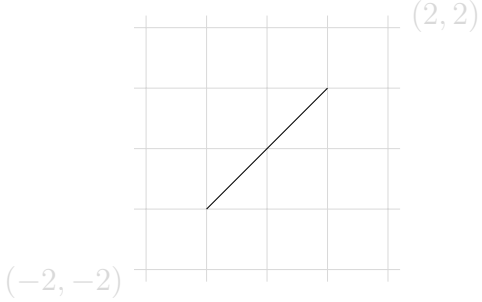
(B)



(C)



(D)



(E) `wrong source`

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]{$(2,2)$}; \draw plot[domain=-1:1] ({abs(\x)},\x) ; \end{tikzpicture}	
\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 plot[domain=-1:1] (\x,\x) ; \end{tikzpicture}	
\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 plot[domain=-1:1] (\x,{abs(\x)}) ; \end{tikzpicture}	
\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 plot[domain=-1:1] (abs(\x),abs(\x)); \end{tikzpicture}	
\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 plot[domain=-1:1] ({abs(\x)},{abs(\x)}); \end{tikzpicture}	

3. (A) `[x == -sqrt(3), x == sqrt(3)]` (B) `x == sqrt(3)` (C) `0` (D) `[x == sqrt(3)]` (E) `<wrong source>`

Source	Result
`f(x) = x^2-3; s = solve(f,x)[0] ; f(s.rhs())`	
`assume(x>0); solve(x^2-3,x)`	
`suppose(x>0); solve(x^2-3,x)`	
`solve(x^2-3,x)[1]`	
`solve(x^2-3,x)`	

4. Let `m = matrix([[1,3,2],[4,3,5],[2,4,5]])`.

(A) `(4,3,5)` (B) `(4,10,10)` (C) `(2,4,5)` (D) `-15` (E) `<wrong source>`

Source	Result
`m.column[1]`	
`det(m)`	
`m.row(1)`	
`(2*m).column(2)`	
`m[2]`	