

Informatics 1

Midterm retake 1, Fall 2024

NAME*

NEPTUN CODE*

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1. (A) a^{bc} (B) $a^{\{bc\}}$ (C) a^{b^c} (D) $\{a^b\}^c$ (E) wrong source

Source	Result
$\{a^b\}^c$	
$a^{\{bc\}}$	
$\{a^b\}^c$	
$a^{\{bc\}}$	
$a^b{}^c$	

2. (A) $\binom{a}{b}c$ (B) $\binom{ab}{c}$ (C) $\binom{a}{bc}$ (D) $a\binom{b}{c}$ (E) wrong source

Source	Result
$a\binom{b}{c}$	
$\binom{a}{bc}$	
$\binom{ab}{c}$	
$\binom{a}{bc}$	
$\binom{a}{bc}$	

3. (A)

(1)

$$\sin(x + y) = \sin x \cos y + \cos x \sin y,$$

$$\cos x \cos y - \sin x \sin y = \cos(x + y)$$

(B)

$$\sin(x + y) = \sin x \cos y + \cos x \sin y,$$

$$\cos x \cos y - \sin x \sin y = \cos(x + y)$$

(C)

$$\sin(x + y) = \sin x \cos y + \cos x \sin y,$$

$$\cos x \cos y - \sin x \sin y = \cos(x + y)$$

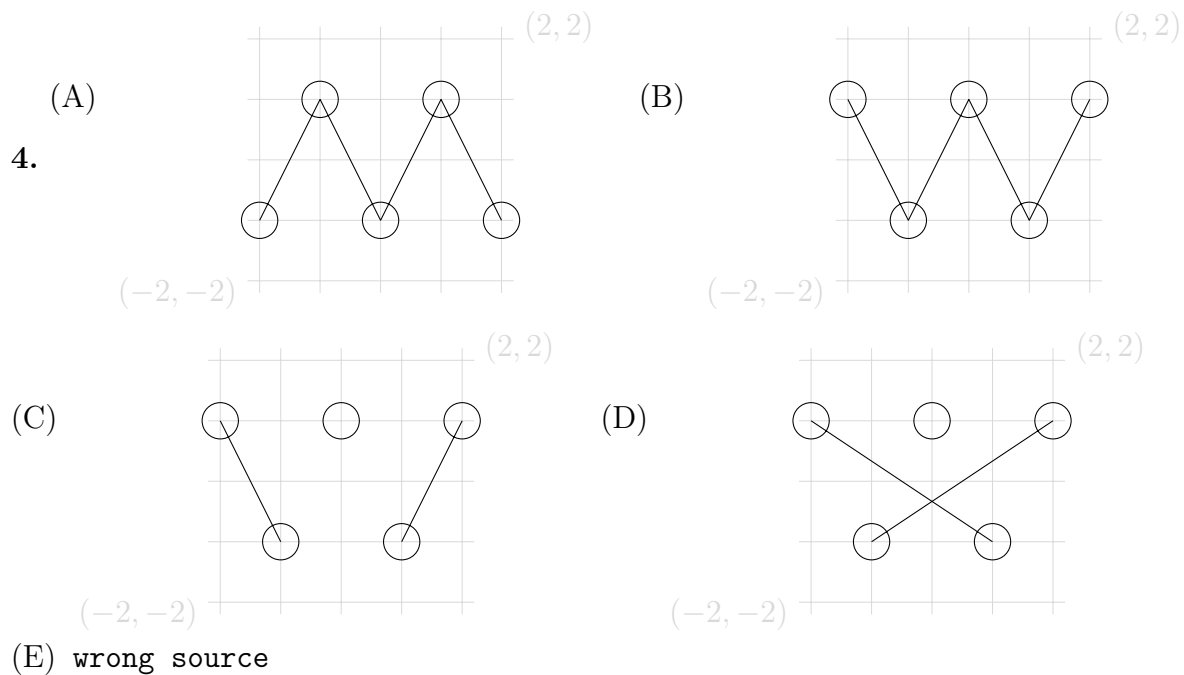
(D)

$$\sin(x + y) = \sin x \cos y + \cos x \sin y,$$

$$\cos x \cos y - \sin x \sin y = \cos(x + y)$$

(E) wrong source

Source	Result
<pre>\begin{gather} \sin(x+y) = \sin x\cos y+ \cos x\sin y, \\ \cos x\cos y - \sin x\sin y = \cos(x+y) \notag \end{gather}</pre>	
<pre>\begin{multline*} \sin(x+y) = \sin x\cos y+ \cos x\sin y, \\ \cos x\cos y - \sin x\sin y = \cos(x+y) \end{multline*}</pre>	
<pre>\begin{align*} \sin(x+y) &= \sin x\cos y+ \cos x\sin y, \\ \cos x\cos y - \sin x\sin y &= \cos(x+y) \end{align*}</pre>	
<pre>\[\sin(x+y) &= \sin x\cos y+ \cos x\sin y, \\ \cos x\cos y - \sin x\sin y &= \cos(x+y) \]</pre>	
<pre>\begin{gather*} \sin(x+y) = \sin x\cos y+ \cos x\sin y, \\ \cos x\cos y - \sin x\sin y = \cos(x+y) \end{gather*}</pre>	



Source	Result
<pre>\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 (-2,1) circle (0.3) -- (1, -1) circle (0.3) (0,1) circle (0.3) (-1,-1) circle (0.3) -- (2,1) circle (0.3) ; \end{tikzpicture}</pre>	
<pre>\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,-1) circle (0.3) -- (-1, 1) circle (0.3) -- (0,-1) circle (0.3) -- (1,1) circle (0.3) -- (2,-1) circle (0.3) ; \end{tikzpicture}</pre>	
<pre>\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 (-2,1) circle (0.3) -- (-1, -1) circle (0.3) (0,1) circle (0.3) (1,-1) circle (0.3) -- (2,1) circle (0.3) ; \end{tikzpicture}</pre>	

<pre> \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 (-2,1) circle (0.3) -- (-1, -1) circle (0.3) -- (0,1) circle (0.3) -- (1,-1) circle (0.3) -- (2,1) circle (0.3) ; \end{tikzpicture} </pre>	
<pre> \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 (-2,1) circle (0,3) -- (1, -1) circle (0,3) (0,1) circle (0,3) (-1,-1) circle (0,3) -- (2,1) circle (0,3) ; \end{tikzpicture} </pre>	