

AP Precalculus
Vector Components and Direction

Vector Components and Direction | APPC-U04-P10

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
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Topic focus

Across 96 tasks this topic asks for classification with decisive evidence, vector, components, relations with components, equal, opposite, and non-equivalent relations and components and relation.

8 PDFs and a README; 146 buyer pages.

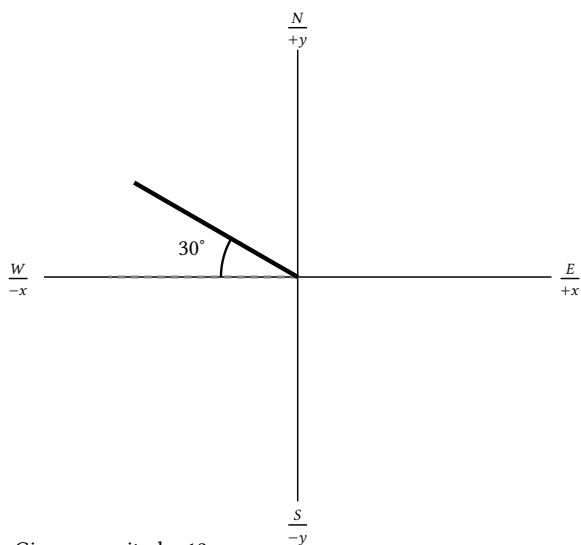
AP Precalculus

Vector Components and Direction

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

Resolve the west-based heading into east and north components.



Bank label: _____

Find the directed component changes.

Domain: Cartesian plane; Head: (2, 1); Tail: (5, 5)

Bank label: _____

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Name: _____ Date: _____ Class: _____

Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. A value without its unit is not a complete answer.

Do the two directed segments represent the same free vector even though they start at different points? Required response <table><tr><th>Arrow</th><th>Tail (x, y)</th><th>Head (x, y)</th></tr><tr><td>A</td><td>1, 2</td><td>5, 5</td></tr><tr><td>B</td><td>-3, 0</td><td>1, 3</td></tr></table>	Arrow	Tail (x, y)	Head (x, y)	A	1, 2	5, 5	B	-3, 0	1, 3	State the magnitude and standard-position direction of the vector. Components: (0, 7); Domain: Cartesian plane; angles in degrees when stated
Arrow	Tail (x, y)	Head (x, y)								
A	1, 2	5, 5								
B	-3, 0	1, 3								

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and Direction**

Name: _____ Date: _____ Class: _____

Begin at START. Answer the card, then find the matching final answer at the top of another card. Use the recording sheet for your reasoning. Visit each card once and continue to FINISH.

START

Find the vector directed from the stated tail to the stated head.

Domain: Cartesian plane; angles in degrees when stated; Head: $(7, 1)$; Tail: $(2, 3)$

Your response: _____

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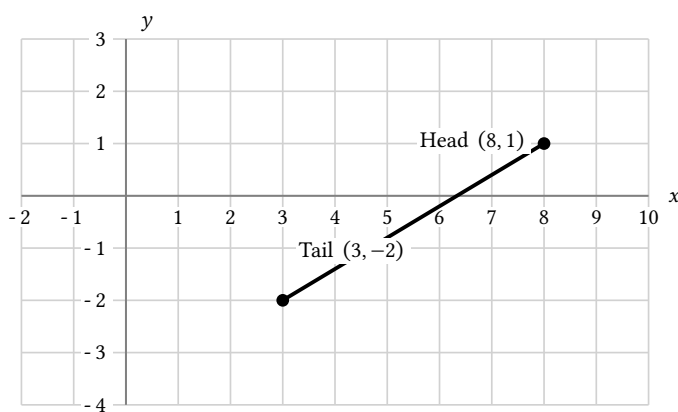
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Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

Explain why the student's ordered pair is not the vector and give the correct components.

Domain: Cartesian plane; angles in degrees when stated; Head: $(8, 1)$; Student claim: The vector is $\langle 8, 1 \rangle$; Tail: $(3, -2)$



Given arrow

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Full Worked Solutions - excerpt

Worked example

Problem. Find the vector directed from the stated tail to the stated head.

Domain: Cartesian plane; angles in degrees when stated; Head: $(7, 1)$; Tail: $(2, 3)$

Answer. $\langle 5, -2 \rangle$

Explanation and check.

Subtracting tail coordinates from head coordinates gives horizontal change 5 and vertical change -2 .

Worked example

Problem. Find the terminal point of the directed segment.

Domain: Cartesian plane; angles in degrees when stated; Tail: $(-2, 5)$; Vector: $(4, -3)$

Answer. The head is $(2, 2)$.

Explanation and check.

The head equals the tail plus the displacement, giving $(-2 + 4, 5 - 3) = (2, 2)$.