

Vector Bingo

Number	Question	Answer
1	Find Vector AB in Component Form. Given: $A = (8, -7)$ $B = (-7, -10)$	$\langle -15, -3 \rangle$
2	Find the Vector Given B is the Initial Point and A is the Terminal Point. Write as a sum of unit vectors. $A = (7, 1)$ $B = (10, -5)$	$-3i + 6j$
3	Find the component form of the resultant vector. $\mathbf{u} = \langle 1, -6 \rangle$ $\mathbf{v} = \langle -7, -5 \rangle$ Find: $-\mathbf{u} + \mathbf{v}$	$\langle -8, 1 \rangle$
4	Express resultant vector as a Linear Combination. $\mathbf{u} = -9\mathbf{i}$ $\mathbf{g} = 3\mathbf{i} + 4\mathbf{j}$ Find: $9\mathbf{u} - 7\mathbf{g}$	$-102\mathbf{i} - 28\mathbf{j}$
5	Find the Magnitude of the Vector from the given information: $\mathbf{b} = \langle -6, -2 \rangle$	$2\sqrt{10}$
6	Find the Magnitude of the Vector from the given information: $-15\mathbf{i} + 36\mathbf{j}$	39
7	Find the Direction Angle of the Vector from the given information: $20\mathbf{i} - 17\mathbf{j}$	319.64°

8	Find the Direction Angle of the Vector. $\langle -10, \sqrt{69} \rangle$	140.28°
9	Find the Unit Vector from the given information: $\mathbf{u} = \langle 24, -32 \rangle$	$\left\langle \frac{3}{5}, -\frac{4}{5} \right\rangle$
10	Find the Unit Vector. $-13\mathbf{i} + 6\sqrt{22}\mathbf{j}$	$-\frac{13}{31}\mathbf{i} + \frac{6\sqrt{22}}{31}\mathbf{j}$
11	Find the Dot Product of the Vectors. $\mathbf{u} = -7\mathbf{i}$ $\mathbf{v} = -4\mathbf{i} + 5\mathbf{j}$	28
12	Find the Dot Product of the Vectors. $\mathbf{u} = \langle 8, 6 \rangle$ $\mathbf{v} = \langle -6, 6 \rangle$	-12
13	Find the angle between the Vectors. $\mathbf{u} = 3\mathbf{i} + 6\mathbf{j}$ $\mathbf{v} = -3\mathbf{i} + 5\mathbf{j}$	57.53°
14	Find the angle between the Vectors. $\mathbf{u} = \langle -6, -9 \rangle$ $\mathbf{v} = \langle 3, 3 \rangle$	168.69°
15	Tell if the two vectors are orthogonal. $\mathbf{u} = \langle 25, -15 \rangle$ $\mathbf{v} = \langle 3, 5 \rangle$	Yes

16	Tell if the two vectors are perpendicular. $\mathbf{u} = -9\mathbf{i} - 2\mathbf{j}$ $\mathbf{v} = 3\mathbf{i} - 4\mathbf{j}$	No
17	Given $\ \vec{a}\ = 5$ and $\ \vec{b}\ = 11$ and the angle between the two vectors measures 74° when the vectors are positioned tail-to-tail. Find the length of the resultant.	13.28
18	Using #17, find the measure of the angle that the resultant makes with vector a.	52.76°
19	Find the component form of the vector: $\frac{3}{4}\langle \cos 315^\circ, \sin 315^\circ \rangle$	$\left\langle \frac{3\sqrt{2}}{8}, -\frac{3\sqrt{2}}{8} \right\rangle$
20	Find the component form of the vector: $8\left(\cos\frac{5\pi}{6}i + \sin\frac{5\pi}{6}j\right)$	$\langle -4\sqrt{3}, 4 \rangle$
21	Write the vector in trig form: $\langle 4, 4 \rangle$	$4\sqrt{2}\left\langle \cos\frac{\pi}{4}, \sin\frac{\pi}{4} \right\rangle$
22	Write the vector as a sum of unit vectors: $3(\cos 35^\circ i + \sin 35^\circ j) - 4(\cos 175^\circ i + \sin 175^\circ j)$	$6.44i + 1.37j$
23	Find the vector in component form with magnitude 6 and the same direction as $\langle -2, 5 \rangle$	$\left\langle \frac{-12\sqrt{29}}{29}, \frac{30\sqrt{29}}{29} \right\rangle$
24	Suppose that you swim at 2 km/hr across a stream that has a 4 km/hr current. What speed are you heading?	4.47

Answers:

Place these answers on your board. I would suggest for you to cross out the answer as you place it on the board.

Free Space	$\langle -15, -3 \rangle$	$-\frac{13}{31}i + \frac{6\sqrt{22}}{31}j$	No
28	168.69°	$\left\langle \frac{-12\sqrt{29}}{29}, \frac{30\sqrt{29}}{29} \right\rangle$	$\langle -8, 1 \rangle$
4.47	$-3i + 6j$	$\left\langle \frac{3}{5}, -\frac{4}{5} \right\rangle$	-12
$6.44i + 1.37j$	$-102i - 28j$	$\left\langle \frac{3\sqrt{2}}{8}, -\frac{3\sqrt{2}}{8} \right\rangle$	$2\sqrt{10}$
52.76°	39	$\langle -4\sqrt{3}, 4 \rangle$	319.64°
13.28	140.28°	57.53°	$4\sqrt{2} \left\langle \cos \frac{\pi}{4}, \sin \frac{\pi}{4} \right\rangle$
Yes			