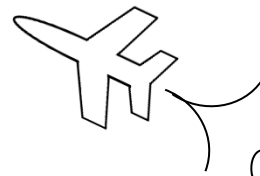




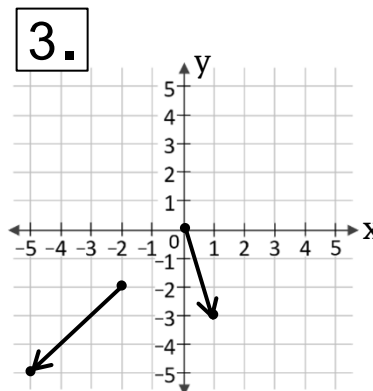
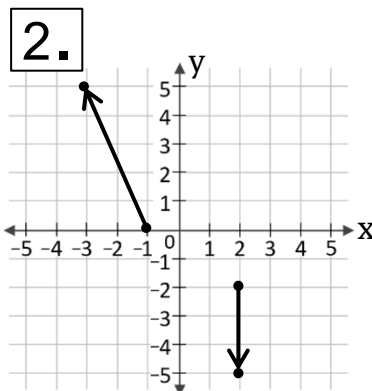
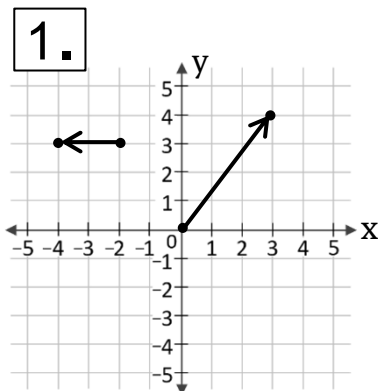
# MAth on the Fly!



NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

## Vectors

Find the component form and the magnitude of each vector in the graph. Then find the sum of the vectors.



In each problem below, the initial point and terminal point of a vector is given. Find the component form and magnitude of each vector.

4.

Vector AB

Initial Point A: (2, -3)

Terminal Point B: (-4, 5)

5.

Vector CD

Initial Point C: (-5, -1)

Terminal Point D: (-2, 6)

6.

Vector EF

Initial Point E: (0, -8)

Terminal Point F: (9, 4)

Given the vectors  $u = \langle -7, 10 \rangle$  and  $v = \langle 6, -1 \rangle$  find each vector below:

7.  $u + v$

8.  $u - v$

9.  $u - 2v$

10.  $2u + 3v$

11.  $\frac{4}{3}v$

12.  $-\frac{1}{2}u$

Get the latest in ACT Math test prep with books, worksheets and more!

<https://www.mathonthefly.com>

## SOLUTIONS

1. Smaller Vector:  $\langle -2, 0 \rangle$ , Magnitude = 2  
Larger Vector:  $\langle 3, 4 \rangle$ , Magnitude = 5  
Sum =  $\langle 1, 4 \rangle$
2. Smaller Vector:  $\langle 0, -3 \rangle$ , Magnitude = 3  
Larger Vector:  $\langle -2, 5 \rangle$ , Magnitude =  $\sqrt{29}$   
Sum =  $\langle -2, 2 \rangle$
3. Smaller Vector:  $\langle 1, -3 \rangle$ , Magnitude =  $\sqrt{10}$   
Larger Vector:  $\langle -3, -3 \rangle$ , Magnitude =  $\sqrt{18}$   
Sum =  $\langle -2, -6 \rangle$
4. Vector AB:  $\langle -6, 8 \rangle$ , Magnitude = 10
5. Vector CD:  $\langle 3, 7 \rangle$ , Magnitude =  $\sqrt{58}$
6. Vector EF:  $\langle 9, 12 \rangle$ , Magnitude = 15
7.  $\langle -1, 9 \rangle$
8.  $\langle -13, 11 \rangle$
9.  $\langle -19, 12 \rangle$
10.  $\langle 4, 17 \rangle$
11.  $\langle 8, -\frac{4}{3} \rangle$
12.  $\langle \frac{7}{2}, -5 \rangle$