

Practice Worksheet

Geometric Vectors

Use a metric ruler and a protractor to find each sum or difference. Then, find the magnitude and amplitude of each resultant.



1. $\vec{a} - \vec{b}$

2. $\vec{b} - \vec{c}$

3. $2\vec{a} + \vec{b}$

4. $\vec{b} - 3\vec{c}$

Find the magnitude of the vertical and horizontal components of each vector shown for Exercises 1-4.

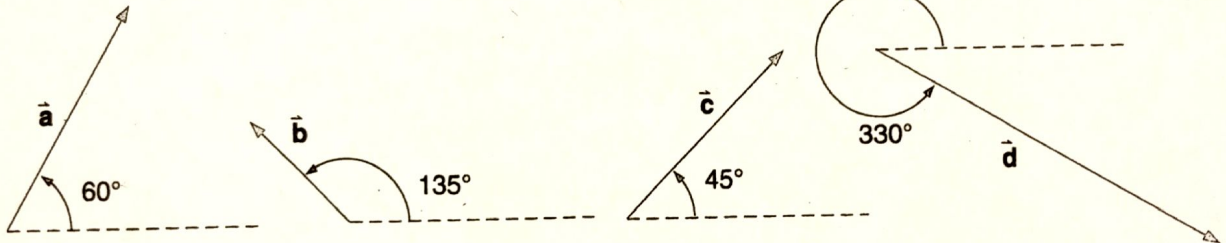
5. \vec{a}

6. \vec{b}

7. \vec{c}

Practice

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16. $\vec{a} + \vec{c}$

17. $\vec{a} + \vec{b}$

18. $\vec{d} + \vec{b}$

19. $\vec{a} + \vec{d}$

20. $2\vec{b}$

21. $3\vec{a}$

22. $3\vec{d} + 2\vec{b}$

23. $\vec{c} - \vec{a}$

24. $\vec{a} - \vec{d}$

25. $3\vec{c} - 2\vec{a}$

26. $\vec{a} + \vec{c} + \vec{d}$

27. $\vec{b} + \vec{d} - \vec{c}$

28. $3\vec{a} + \vec{c} - \vec{d}$

Find the magnitude of the vertical and horizontal components of each vector shown for Exercises 16–28.

29. \vec{a}

30. \vec{b}

31. \vec{c}

32. \vec{d}

33. The magnitude of \vec{x} is 7.3 m, and the magnitude of \vec{y} is 8.8 m. If \vec{x} and \vec{y} are perpendicular, what is the magnitude of their sum?

34. Is addition of vectors commutative? Justify your answer. *Hint: Find the sum of two vectors, $\vec{r} + \vec{s}$ and $\vec{s} + \vec{r}$, using the triangle method.*

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