Vector Addition problems

Show a graphical solution to adding the following vectors.

1. 12 U E and 10 U N Vr = \_\_\_\_
2. 15 W and 20 S Vr = 
3. 16 W and 18 N Vr =



1. 10 E, 4 N and 4 W Vr = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ θ \_\_\_\_\_\_



1. 12 E and 15 S Vr = \_\_\_\_\_\_\_\_\_\_\_\_ θ \_\_\_\_\_\_\_\_\_ 

Draw the resultant vectors in the following situations and determine the magnitude (length) and the direction (angle) of the resultant you drew using trigonometry to find components.

1. 8 u E and 5.7 u at 45° vr = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ θ\_\_\_\_\_\_\_\_



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| --- | --- | --- |
| **Vector** | X component(v)(cos θ) | Y component(v)( |
| V1 = 8 E |  |  |
| V2 = 5.7 @ 45° |  |  |
| Net x and y |  |  |
| Vr (resultant |  |  |

1. 12 u W and 15 u at 127° vr = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ θ \_\_\_\_\_\_\_\_\_



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| **Vector** | X component(v)(cos θ) | Y component(v)( |
| V1 = 12 W |  |  |
| V2 = 15 @ 127 |  |  |
| Net components |  |  |
| Vr (resultant) |  |  |

1. 25 u E and 22.4 u at 117° vr = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ θ \_\_\_\_\_\_\_\_\_\_



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| **Vector** | X component(v)(cos θ) | Y component(v)( |
| V1 = 25 E |  |  |
| V2 = 22.4 @ 117° |  |  |
| Net components  |  |  |
| Vr (resultant) |  |  |