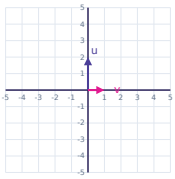
Vectors: Direction, Unit Vectors & Angles · 1

Find the angle between u = <0, 2> and v = <1, 0>.



Vectors: Direction, Unit Vectors & Angles · 2

Find the unit vector in the direction of v = <5, 12>.

Vectors: Direction, Unit Vectors & Angles · 3

A vector v has magnitude 10 and direction angle 150°. Write v in component form.

Vectors: Direction, Unit Vectors & Angles · 4

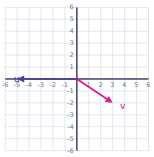
Find k so that <4, -2> and <-5, k> are perpendicular.

Vectors: Direction, Unit Vectors & Angles · 5

Find the direction angle of v = <-2, -2√3>.

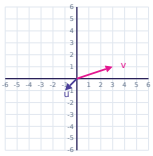
Vectors: Direction, Unit Vectors & Angles · 6

u = <-5, 0> and v = <3, -2>. Find 4u + 2v.



Vectors: Direction, Unit Vectors & Angles · 7

u = <-1, -1> and v = <3, 1>. Find 4u + 2v.



Vectors: Direction, Unit Vectors & Angles · 8

Find k so that <6, 3> and <4, k> are perpendicular.

Vectors: Direction, Unit Vectors & Angles · 2

ANSWER

$$\left\langle \frac{5}{13}, \frac{12}{13} \right\rangle$$

Vectors: Direction, Unit Vectors & Angles · 1

ANSWER

90°

Vectors: Direction, Unit Vectors & Angles · 4

ANSWER

k = -10

Vectors: Direction, Unit Vectors & Angles · 3

ANSWER

<-5√3, 5>

Vectors: Direction, Unit Vectors & Angles · 6

ANSWER

<-14, -4>

Vectors: Direction, Unit Vectors & Angles · 5

ANSWER

240°

Vectors: Direction, Unit Vectors & Angles · 8

ANSWER

k = -8

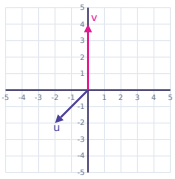
Vectors: Direction, Unit Vectors & Angles · 7

ANSWER

<2, -2>

Vectors: Direction, Unit Vectors & Angles · 9

Find the angle between u = <-2, -2> and v = <0, 4>.



Vectors: Direction, Unit Vectors & Angles · 10

Find the angle between u = <4, 4> and v = <-1, -5>. Round to the nearest degree.

Vectors: Direction, Unit Vectors & Angles · 11

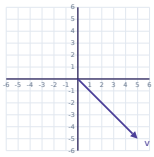
A vector v has magnitude 10 and direction angle 240°. Write v in component form.

Vectors: Direction, Unit Vectors & Angles · 12

Find k so that <-4, 3> and <-6, k> are perpendicular.

Vectors: Direction, Unit Vectors & Angles · 13

Find the direction angle of v = <5, -5>.



Vectors: Direction, Unit Vectors & Angles · 14

Find the unit vector in the direction of v = <21, 20>.

Vectors: Direction, Unit Vectors & Angles · 15

Find the angle between u = <-1, 6> and v = <-6, 1>. Round to the nearest degree.

Vectors: Direction, Unit Vectors & Angles · 16

Find the direction angle of v = <-2, 2√3>.

Vectors: Direction, Unit Vectors & Angles · 10

ANSWER

146°

Vectors: Direction, Unit Vectors & Angles · 9

ANSWER

135°

Vectors: Direction, Unit Vectors & Angles · 12

ANSWER

k = -8

Vectors: Direction, Unit Vectors & Angles · 11

ANSWER

<-5, -5√3>

Vectors: Direction, Unit Vectors & Angles · 14

ANSWER

$$\left\langle \frac{21}{29}, \frac{20}{29} \right\rangle$$

Vectors: Direction, Unit Vectors & Angles · 13

ANSWER

315°

Vectors: Direction, Unit Vectors & Angles · 16

ANSWER

120°

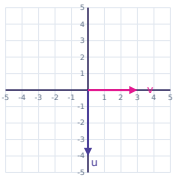
Vectors: Direction, Unit Vectors & Angles · 15

ANSWER

71°

Vectors: Direction, Unit Vectors & Angles · 17

Find the angle between u = <0, -4> and v = <3, 0>.



Vectors: Direction, Unit Vectors & Angles · 18

Find the angle between u = <0, -2> and v = <3, -5>. Round to the nearest degree.

Vectors: Direction, Unit Vectors & Angles · 19

A vector v has magnitude 4 and direction angle 240°. Write v in component form.

Vectors: Direction, Unit Vectors & Angles · 20

Find k so that <3, 3> and <4, k> are perpendicular.

Vectors: Direction, Unit Vectors & Angles · 21

Find the direction angle of v = <-1, -√3>.

Vectors: Direction, Unit Vectors & Angles · 22

Find the unit vector in the direction of v = <-24, -7>.

Vectors: Direction, Unit Vectors & Angles · 23

Find the angle between u = <5, 2> and v = <0, -4>. Round to the nearest degree.

Vectors: Direction, Unit Vectors & Angles · 24

Find k so that <4, -2> and <2, k> are perpendicular.

Vectors: Direction, Unit Vectors & Angles · 18

ANSWER

$31°$

Vectors: Direction, Unit Vectors & Angles · 17

ANSWER

$90°$

Vectors: Direction, Unit Vectors & Angles · 20

ANSWER

$k = -4$

Vectors: Direction, Unit Vectors & Angles · 19

ANSWER

$\langle -2, -2\sqrt{3} \rangle$

Vectors: Direction, Unit Vectors & Angles · 22

ANSWER

$$\left\langle -\frac{24}{25}, -\frac{7}{25} \right\rangle$$

Vectors: Direction, Unit Vectors & Angles · 21

ANSWER

$240°$

Vectors: Direction, Unit Vectors & Angles · 24

ANSWER

$k = 4$

Vectors: Direction, Unit Vectors & Angles · 23

ANSWER

$112°$