Vectors in 3D: Dot & Cross Products · 1

u = <-3, -7, 7> and v = <7, 6, 2>. Find u · v.

Vectors in 3D: Dot & Cross Products · 2

u = <0, -3, -6> and v = <4, -3, 6>. Find u × v.

Vectors in 3D: Dot & Cross Products · 3

Find the magnitude of v = <4, 7, 4>.

Vectors in 3D: Dot & Cross Products · 4

Are u = <-4, 2, 5> and v = <1, 2, 0> perpendicular? Write yes or no.

Vectors in 3D: Dot & Cross Products · 5

u = <-2, -4, 5> and v = <5, 6, 2>. Find 2u - v.

Vectors in 3D: Dot & Cross Products · 6

u = <-5, 1, -4> and v = <-5, 2, -2>. Find u × v.

Vectors in 3D: Dot & Cross Products · 7

Find the distance between the points P(-4, 4, -1) and Q(-2, 5, -3).

Vectors in 3D: Dot & Cross Products · 8

u = <-6, -1, 7> and v = <4, 2, -5>. Find u · v.

Vectors in 3D: Dot & Cross Products · 2

ANSWER

<-36, -24, 12>

Vectors in 3D: Dot & Cross Products · 1

ANSWER

-49

Vectors in 3D: Dot & Cross Products · 4

ANSWER

yes

Vectors in 3D: Dot & Cross Products · 3

ANSWER

9

Vectors in 3D: Dot & Cross Products · 6

ANSWER

<6, 10, -5>

Vectors in 3D: Dot & Cross Products · 5

ANSWER

<-9, -14, 8>

Vectors in 3D: Dot & Cross Products · 8

ANSWER

-61

Vectors in 3D: Dot & Cross Products · 7

ANSWER

3

u = <2, -2, -7> and v = <-4, -1, -7>. Find u × v.

Find k so that <-5, -6, 5> and <4, -5, k> are perpendicular.

Find the unit vector in the direction of v = <2, -11, -10>.

Find the distance between the points P(-3, -3, 0) and Q(-7, 5, 8).

u = <7, 0, 6> and v = <0, 2, -1>. Find u × v.

Are u = <1, 5, -5> and v = <0, -6, -6> perpendicular? Write yes or no.

u = <1, -5, -1> and v = <5, 6, 7>. Find u · v.

u = <-7, -2, -7> and v = <-7, 3, -7>. Find u × v.

Vectors in 3D: Dot & Cross Products · 10

ANSWER

$k = -2$

Vectors in 3D: Dot & Cross Products · 9

ANSWER

$\langle 7, 42, -10 \rangle$

Vectors in 3D: Dot & Cross Products · 12

ANSWER

12

Vectors in 3D: Dot & Cross Products · 11

ANSWER

$$\left\langle \frac{2}{15}, \frac{11}{-15}, \frac{2}{-3} \right\rangle$$

Vectors in 3D: Dot & Cross Products · 14

ANSWER

yes

Vectors in 3D: Dot & Cross Products · 13

ANSWER

$\langle -12, 7, 14 \rangle$

Vectors in 3D: Dot & Cross Products · 16

ANSWER

$\langle 35, 0, -35 \rangle$

Vectors in 3D: Dot & Cross Products · 15

ANSWER

-32

u = <2, -7, -1> and v = <-6, 2, 7>. Find u × v.

Find k so that <-4, 2, -1> and <-6, -1, k> are perpendicular.

Find the unit vector in the direction of v = <-12, -9, -8>.

Find the distance between the points P(0, 3, 4) and Q(-5, 3, 16).

u = <-4, 3, -2> and v = <4, 6, -4>. Find u × v.

Are u = <3, -6, -5> and v = <-3, 0, 2> perpendicular? Write yes or no.

u = <-1, -3, -2> and v = <8, -6, 8>. Find u · v.

u = <-6, -3, 7> and v = <1, -3, -5>. Find u × v.

Vectors in 3D: Dot & Cross Products · 18

ANSWER

$k = 22$

Vectors in 3D: Dot & Cross Products · 17

ANSWER

$\langle -47, -8, -38 \rangle$

Vectors in 3D: Dot & Cross Products · 20

ANSWER

13

Vectors in 3D: Dot & Cross Products · 19

ANSWER

$$\left\langle -\frac{12}{17}, -\frac{9}{17}, -\frac{8}{17} \right\rangle$$

Vectors in 3D: Dot & Cross Products · 22

ANSWER

no

Vectors in 3D: Dot & Cross Products · 21

ANSWER

$\langle 0, -24, -36 \rangle$

Vectors in 3D: Dot & Cross Products · 24

ANSWER

$\langle 36, -23, 21 \rangle$

Vectors in 3D: Dot & Cross Products · 23

ANSWER

-6