Task card 1 Vectors in 3D: Dot & Cross Product...

$u = \langle -3, -7, 7 \rangle$ and $v = \langle 7, 6, 2 \rangle$. Find $u \cdot v$.

Task card 2 Vectors in 3D: Dot & Cross Product...

$u = \langle 0, -3, -6 \rangle$ and $v = \langle 4, -3, 6 \rangle$. Find $u \times v$.

Task card 3 Vectors in 3D: Dot & Cross Product...

Find the magnitude of $v = \langle 4, 7, 4 \rangle$.

Task card 4 Vectors in 3D: Dot & Cross Product...

Are $u = \langle -4, 2, 5 \rangle$ and $v = \langle 1, 2, 0 \rangle$ perpendicular? Write yes or no.

Task card 5 Vectors in 3D: Dot & Cross Product...

$u = \langle -2, -4, 5 \rangle$ and $v = \langle 5, 6, 2 \rangle$. Find $2u - v$.

Task card 6 Vectors in 3D: Dot & Cross Product...

$u = \langle -5, 1, -4 \rangle$ and $v = \langle -5, 2, -2 \rangle$. Find $u \times v$.

Task card 7 Vectors in 3D: Dot & Cross Product...

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

Task card 8 Vectors in 3D: Dot & Cross Product...

$u = \langle -6, -1, 7 \rangle$ and $v = \langle 4, 2, -5 \rangle$. Find $u \cdot v$.

Task card 9 Vectors in 3D: Dot & Cross Product...

$u = \langle 2, -2, -7 \rangle$ and $v = \langle -4, -1, -7 \rangle$. Find $u \times v$.

Task card 10 Vectors in 3D: Dot & Cross Product...

Find k so that $\langle -5, -6, 5 \rangle$ and $\langle 4, -5, k \rangle$ are perpendicular.

Task card 11 Vectors in 3D: Dot & Cross Product...

Find the unit vector in the direction of $v = \langle 2, -11, -10 \rangle$.

Task card 12 Vectors in 3D: Dot & Cross Product...

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

Task card 13 Vectors in 3D: Dot & Cross Product...

$u = \langle 7, 0, 6 \rangle$ and $v = \langle 0, 2, -1 \rangle$. Find $u \times v$.

Task card 14 Vectors in 3D: Dot & Cross Product...

Are $u = \langle 1, 5, -5 \rangle$ and $v = \langle 0, -6, -6 \rangle$ perpendicular? Write yes or no.

Task card 15 Vectors in 3D: Dot & Cross Product...

$u = \langle 1, -5, -1 \rangle$ and $v = \langle 5, 6, 7 \rangle$. Find $u \cdot v$.

Task card 16 Vectors in 3D: Dot & Cross Product...

$u = \langle -7, -2, -7 \rangle$ and $v = \langle -7, 3, -7 \rangle$. Find $u \times v$.

Task card 17 Vectors in 3D: Dot & Cross Product...

$u = \langle 2, -7, -1 \rangle$ and $v = \langle -6, 2, 7 \rangle$. Find $u \times v$.

Task card 18 Vectors in 3D: Dot & Cross Product...

Find k so that $\langle -4, 2, -1 \rangle$ and $\langle -6, -1, k \rangle$ are perpendicular.

Task card 19 Vectors in 3D: Dot & Cross Product...

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

Task card 20 Vectors in 3D: Dot & Cross Product...

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

Task card 21 Vectors in 3D: Dot & Cross Product...

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

Task card 22 Vectors in 3D: Dot & Cross Product...

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

Task card 23 Vectors in 3D: Dot & Cross Product...

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

Task card 24 Vectors in 3D: Dot & Cross Product...

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

Vectors in 3D: Dot & Cross Products Task Cards

Recording sheet · Grade 12 · Give exact answers. Write vectors as <a, b, c>.

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Vectors in 3D: Dot & Cross Products Task Cards: Answer Key

Grade 12 · Medium

The answers online

1. -49	**2.** <-36, -24, 12>	**3.** 9
4. yes	**5.** <-9, -14, 8>	**6.** <6, 10, -5>
7. 3	**8.** -61	**9.** <7, 42, -10>
10. k = -2	**11.** $\left\langle \frac{2}{15}, -\frac{11}{15}, -\frac{2}{3} \right\rangle$	**12.** 12
13. <-12, 7, 14>	**14.** yes	**15.** -32
16. <35, 0, -35>	**17.** <-47, -8, -38>	**18.** k = 22
19. $\left\langle -\frac{12}{17}, -\frac{9}{17}, -\frac{8}{17} \right\rangle$	**20.** 13	**21.** <0, -24, -36>
22. no	**23.** -6	**24.** <36, -23, 21>