

Review Quiz 1

Instructions. You have 15 minutes to complete this review quiz. You may not use your calculator. You may not use any other materials. Submit your answers using the provided Google Form.

- If the cross product of two nonzero vectors is $\langle 0, 0, 0 \rangle$, what can we conclude about the vectors?
 - Nothing – not enough information.
 - They are orthogonal.
 - They are parallel.
 - They are unit vectors.
 - The vectors have the same magnitude.
- Which vector is orthogonal to $\langle 1, 3, 2 \rangle$?
 - $\langle 1, 1, 1 \rangle$
 - $\langle 0, 1, 0 \rangle$
 - $\langle 1, -1, 1 \rangle$
 - $\langle -1, 0, 1 \rangle$
 - $\langle 2, 3, 1 \rangle$
- Which of these planes is perpendicular to the line $x = 2 - t$, $y = -2 + \frac{1}{2}t$, $z = 1 + 2t$?
 - $x - \frac{1}{2}y - 2z = 5$
 - $2x - 2y + z = 3$
 - $x - 2y - \frac{1}{2}z = 8$
 - $-\frac{1}{2}x + \frac{1}{2}y - z = 7$
 - $2x + z = 4$
- The tangent vector to the curve $\vec{r}(t) = \langle 2t, \sin t, \cos t \rangle$ at $t = \pi$ is:
 - $\langle 2\pi, -\pi, 0 \rangle$
 - $\langle 2, -1, 0 \rangle$
 - $\langle 2, 0, 1 \rangle$
 - $\langle 2\pi, 0, 1 \rangle$
 - $\langle 2\pi, -1, 0 \rangle$
- Find the length of the curve $\vec{r}(t) = \langle \sin t, \cos t, t\sqrt{3} \rangle$ from $t = 0$ to $t = 10$.
 - $10 + 50\sqrt{t}$
 - $\cos(10) + \sin(10) + 10\sqrt{3}$
 - $10 + 10\sqrt{3}$
 - 10
 - 20