Match the physical/geometric description in column 2 that is numbered 1–9 to a name in column 1 and a formula in column 3. If the description contains the word <u>certain</u> then clarify which vector or plane "certain" refers to.

torsion τ	1. how fast we are traveling along the curve in time	$\dfrac{\frac{T'(t)}{|\alpha'(t)|}}{\left|\frac{T'(t)}{|\alpha'(t)|}\right|}$
acceleration	2. how fast a <u>certain</u> tangent vector is changing in space and the deviation of the curve from being a straight line	$-\dfrac{B'(t)}{|\alpha'(t)|} \cdot N$
$T'(s)$	3. how far we are traveling along the curve in space	$(\dfrac{d^2\alpha^1}{dt^2}, \dfrac{d^2\alpha^2}{dt^2}, \dfrac{d^2\alpha^3}{dt^2})$
$B'(s)$	4. captures the movement of a <u>certain</u> tangent in time	$-\tau N$
arc length	5. how fast we are twisting out of a <u>certain</u> plane in space	κN
speed	6. captures the movement of a <u>certain</u> tangent in space	$\displaystyle\int |\alpha'(t)| dt$
$N'(s)$	7. captures the movement of a <u>certain</u> plane in space	$\left|\dfrac{T'(t)}{|\alpha'(t)|}\right|$
curvature κ	8. unit vector lies along the direction which the curve is currently bending in	$-\kappa T + \tau B$
normal N	9. turns away from a <u>certain</u> tangent and toward a <u>certain</u> binormal	$\sqrt{(\dfrac{d\alpha^1}{dt})^2 + (\dfrac{d\alpha^2}{dt})^2 + (\dfrac{d\alpha^3}{dt})^2}$