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Ex: Suppose a 10 m ladder rests against a vertical wall. If the bottom of the ladder is being pulled at a rate of 1 m/s, find the rate at which the top of the ladder is moving down when the bottom is 8 m away from the wall.

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Ex: John starts walking east from a point J at a speed of 2 m/s.

From a point K, that is 20m west and 5m south of J, Kelly starts walking south, from at a speed of 7 m/s.

How fast apart are the pair moving 5 s after they start walking.

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Ex: A water tank has the shape of an inverted circular cone with base radius 4m and height 2m. If water is pumped in at $2 \text{ m}^3/\text{min}$ find the rate at which the level of water is rising when the water is 1.5 m deep.

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Ex: A low-flying airplane's has a constant velocity of 200 m/s, flying at a constant altitude of 1000 m. Its flight is tracked by a radar dish on the ground.

Find the angular rate of change of the line connecting the radar dish to the plane when the plane is 1000 m to the right of the dish.

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