

Name: _____

Date: _____

Geometry // Mr. Falci

- 1) Lines k_1 and k_2 intersect at point E . Line m is perpendicular to lines k_1 and k_2 at point E .

Which statement is always true?

- (1) Lines k_1 and k_2 are perpendicular.
 - (2) Line m is parallel to the plane determined by lines k_1 and k_2 .
 - (3) Line m is perpendicular to the plane determined by lines k_1 and k_2 .
 - (4) Line m is coplanar with lines k_1 and k_2 .
- 2) Point P is on line m . What is the total number of planes that are perpendicular to line m and pass through point P ?

- (1) 1
- (2) 2
- (3) 0
- (4) infinite

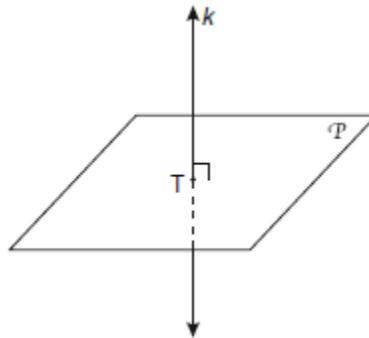
- 3) Through a given point, P , on a plane, how many lines can be drawn that are perpendicular to that plane?

- (1) 1
- (2) 2
- (3) more than 2
- (4) none

- 4) If two different lines are perpendicular to the same plane, they are

- (1) collinear
- (2) coplanar
- (3) congruent
- (4) consecutive

5) In the diagram below, line k is perpendicular to plane P at point T .



Which statement is true?

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|----------------------------------------------------------|-------------------------------------------------------------------|
| (1) Any point in plane P also will be on line k . | (3) All planes that intersect plane P will pass through T . |
| (2) Only one line in plane P will intersect line k . | (4) Any plane containing line k is perpendicular to plane P . |

6) In three-dimensional space, two planes are parallel and a third plane intersects both of the parallel planes. The intersection of the planes is a

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|-----------|--------------------------------|
| (1) plane | (3) pair of parallel lines |
| (2) point | (4) pair of intersecting lines |

7) Line k is drawn so that it is perpendicular to two distinct planes, P and R . What must be true about planes P and R ?

- (1) Planes P and R are skew.
- (2) Planes P and R are parallel.
- (3) Planes P and R are perpendicular.
- (4) Plane P intersects plane R but is not perpendicular to plane R .