TEST PREP on 12.4 and 12.5 - Dr. Loveless

12.5-12.6 Extra Help:

- Review sheet of main line/plane concepts - also includes additional examples on the intersection of two lines and intersection of two planes.
- Visuals/Derivations for Lines/Planes - know these visuals well.
- Flowchart on how to approach finding equations for Lines/Planes
- Practice sheet of finding lines/planes with solutions.
- For 12.6, please follow my advice from lecture (this section will be much easier if you come to class)! Here are the class notes (but they make more sense if you come to class): 12.6 Class Notes
- Also, here is a summary Brief summary sheet of all chapter 12 facts

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PARTICIPATION CODE: Don't forget to ask your TA for the participation code! Enter this on Canvas before the end of quiz section!

Spring 2014 - Exam 1 - Dr. Loveless (finding plane and line equations)

1(a). Find the equation of the plane that contains the point $(1, -2, 3)$ and the contains the line given by $x = 4t$, $y = 1 - t$, $z = 5 + 2t$.

1(b). Consider the line through the point $(0, 3, 5)$ that is orthogonal to the plane $2x - y + z = 20$. Find the point of intersection of the line and the plane.
(Hint: Start by finding parametric equations for the line).

Spring 2011 - Exam 1 - Dr. Loveless (naming shapes)

2. Consider the surface $z = x^2 + 2y^2$.

   (a) Describe the traces parallel to the given plane (no work needed, just circle your answers).

      i. Parallel to the yz-plane (when x is fixed):
      PARABOLAS CIRCLES ELLIPSES HYPERBOLAS NONE OF THESE

      ii. Parallel to the xz-plane (when y is fixed):
      PARABOLAS CIRCLES ELLIPSES HYPERBOLAS NONE OF THESE

      iii. Parallel to the xy-plane (when z is fixed, $z > 0$):
      PARABOLAS CIRCLES ELLIPSES HYPERBOLAS NONE OF THESE

   (b) Clearly circle the name of the surface given by $z = x^2 + 2y^2$:

CONE	SPHERE	ELLIPSOID
PARABOLIC CYLINDER	CIRCULAR CYLINDER	ELLIPTICAL CYLINDER
HYPERBOLIC CYLINDER	HYPERBOLOID	CIRCULAR PARABOLOID
ELLIPTIC PARABOLOID	HYPERBOLIC PARABOLOID	NONE OF THESE