1. Version A: $f(x) = 3 - 7x - 4x^2 + 6x^3$

   a) $T_2(x) = -2 + 3(x-1) + 14(x-1)^2$

   b) error ≤ 0.09375.

   Version B: $f(x) = 2 - 5x - 3x^2 + 4x^3$.

   a) $T_2(x) = -2 + (x-1) + 9(x-1)^2$

   b) error ≤ 0.0625.

2. Version A: $1/24$.

   Version B: $1/120$.

3. Many (in fact, infinitely many) correct answers to this one. Here is one for each version.

   Version A: $\langle 0, \dfrac{35}{\sqrt{34}}, \dfrac{21}{\sqrt{34}} \rangle$.

   Version B: $\langle 3, 6, -6 \rangle$.

4. The direction vector of the line is parallel to the cross product of the normal vectors of the two planes. Together with any point of intersection of the planes, you get the parametric equations. Again, infinitely many correct answers exist.

   Version A: $x = 6t, y = \dfrac{1}{3} + 2t, \dfrac{1}{3} - 4t$.

   Version B: $x = \dfrac{1}{5} + 5t, y = \dfrac{2}{5} + 5t, z = -5t$.

5. Suppose (x, y, z) is a point on the surface. Set up an equation equating the distance from a point (x, y, z) to the original to twice the distance to the other given point. Square, and complete the square to get the standard form of the equation for the sphere. Read off the center and radius.

   Version A: center (20/3,20/3,20/3), radius $\dfrac{10}{\sqrt{3}}$.

   Version B: center (4,4,4), radius $2\sqrt{3}$.

6. Version A: $-10(x-5) - 10(y-3) + 10(z-8) = 0$.

   Version B: $-14(x-8) + 5(y-4) + 11(z-5) = 0$.