Name:_____   Date:_____

Class worksheet: Alg2H
Radicals and Complex Numbers extra-fun
(book chapter 7)

Factor (show your work!) $$6x^2 + x - 12$$	Find the slope of the line perpendicular to the line: $$3x + 5y = -13$$

1. Is the expressions $2 \cdot \sqrt{\dfrac{2}{3}}$ (in words: Two times square-root of two over three)

   equal to, greater than, or smaller than, $\sqrt{2\dfrac{2}{3}}$ (in words: square-root of two and

   two thirds) ?

(Show your work).

2. (challenging) Solve:

$$\frac{2}{3}\sqrt{4.5} + \frac{3}{2}\sqrt[3]{16} + \frac{1}{4}\sqrt{72}$$

3. (challenging) Without using a calculator, determine which is larger:
$$5\sqrt[3]{2} \quad \text{or} \quad 2\sqrt[3]{31} .$$

4. (challenging) Find the value of:

$$x = \sqrt{6 + \sqrt{6 + \sqrt{6 + \sqrt{6 + \cdots}}}}$$