Maximum / Minimum Problems for Review

By David Pleacher

Solve each of the problems below. Find the correct answer from the choices below.

Then place the corresponding word in the appropriate blank to answer the two stupid questions.

\_\_\_\_\_ 1. Determine the constant a in order that the function y = x2 + a/x will have a point of

 inflection at x = 1.

\_\_\_\_\_ 2. Determine the volume of the largest right circular cylinder that can be inscribed in a

 given right circular cone with radius 3 inches and height 9 inches. (Answer is in cubic inches)

\_\_\_\_\_ 3. Determine the minimum point(s) of y = (x+2)2.

\_\_\_\_\_ 4. Where does the graph of y = (x-1)3 have a point of inflection?

\_\_\_\_\_ 5. Graph y = 2x4 - 4x2.

\_\_\_\_\_ 6. Sketch a smooth curve y = f(x) illustrating

 f(3) = 4 f''(x) < 0 for x < 3

 f'(3) = 0 f''(x) > 0 for x > 3

\_\_\_\_\_ 7. Determine the constant k in order that function f(x) = x2 + k/x will have a relative

 minimum at x = 2.

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Answers:

 AT (-2, 0)

 BE (4, 0)

 COMPOSING 9π

 DECOMPOSING 12π

 EXTRA -54

 LARGE (1, 0)

 Answers (continued):

 MEDIUM 16

 IS -1

 FORTUNETELLER 

 MIDGET 

 SMALL 

 HE 

 STILL 

Question #1

 What were the headlines after a midget fortuneteller escaped from jail?

Answer: \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

 #6 #7 #3 #4

Question #2

 Why does Beethoven now spend all his time erasing music?

Answer: \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

 #5 #1 #2