Holiday Puzzle

1. Find the value of 2^2 x 9 + 4.
   Multiply x 10.
   Add 2^4.
   Record your result: _____

2. Solve: 7x – 5(x + 4) = 30
   From this number, subtract the
   product of (-2) and (-5).
   Multiply that answer by the
   difference between the square
   of five and the square root of 441.
   Record your result: _____

3. 6 times 10^2 = _____
   Subtract 5(19 + 29).
   Add the number whose prime
   factorization is 5^2 x 3.
   Record your result: _____

4. Find ¾ of 32.
   Subtract 2^3.
   Reverse the digits and add the
   largest prime factor of 51.
   Record your result: _____

5. Find the 15th term of 1, 4, 9, 16, …
   From this, subtract 3^4.
   Now subtract the product of the
   third and fourth prime numbers.
   Record your result: _____

6. a^2 b^2 c^2 suggests someone's
   theorem. How many letters
   are in his name?
   Multiply that number by the
   difference between the
   square of four and the first
   prime number having two
   digits.
   Subtract the cube of 3.
   Record your result: _____

7. Find the only two digit
   number that is both a perfect
   square and a perfect cube.
   Add to that number the
   following:
   Work out 111111^2. The
   sum of the digits of your
   answer is ___.
   Add the product of the
   number of prime numbers
   between 10 and 50 and the
   number of sides in a
   pentagon.
   Record your result: _____

Arrange your answers: $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$
\qquad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7

Code: \quad 1 = A
\qquad 2 = T
\qquad 3 = O
\qquad 4 = H
\qquad 5 = L
\qquad 6 = P
\qquad 7 = I
\qquad 8 = D
\qquad 9 = S
\qquad 0 = Y

Use the code to determine the message. For each digit in each answer above, substitute the corresponding letter from the code.

Message: _____