Directions: Choose the letter that corresponds to the correct answer to each question below.

1) Solve for x: 3(x - 1) + 2x = 5 + 4x
(a) 5
(b) 6
(c) 7
(d) 8

2) The price of a pencil *p* is equal to ⅕ of the square of the price of an eraser *e*. Which of the following expressions correctly represents the price of a pencil in terms of the price of the eraser?

(a) $p = \frac{1}{5}e^2$

(b) $p = \frac{1}{5}e + 2$

(c) $p = \frac{1}{5}e$

(d) *p = 5e*

3) Which of the following numbers can satisfy the inequality $3x - \frac{1}{2} < \frac{1}{4}$?
(a) ⅓
(b) ⅕
(c) 1
(d) ¾

4) Calculate (3x - 2y)(5x + 4y)
(a) $15x^2 - 4xy + 8y^2$
(b) $15x^2 + 2xy + 8y^2$
(c) $15x^2 - 2xy - 8y^2$
(d) $15x^2 + 2xy - 8y^2$

5) Which of the following quadratic equations has a sum of roots equal to ¼ and a product of roots equal to ¾?

(a) $4x^2 - 2x + 3 = 0$
(b) $6x^2 - 4x + 3 = 0$
(c) $2x^2 - 3x + 2 = 0$
(d) $4x^2 - x + 3 = 0$

6) What are the roots of $6x^2 + 7x = 5$?
(a) -5/3 and -½
(b) -5/3 and ½
(c) ⅗ and ½
(d) -⅗ and -½

7) The sum of two numbers is 89 while their difference is 19. What is the smaller number?
(a) 27
(b) 35
(c) 39
(d) 42

8) Solve for the value of *b* if *a = -1*: $3ab - 2a^2b - 5 = 0$
(a) 1
(b) -1
(c) ⅕
(d) -⅕

9) Write $\log_a x + 2 \log_a y + \log_a z$ as a single logarithm.
(a) $\log_a 2xyz$
(b) $2 \log_a xyz$
(c) $\log_a xy^2z$
(d) $2\log_a xy^2z$

10) What is the domain of the function $f(x) = x^2 + 6x - \pi$

(a) set of all nonnegative real numbers
(b) set of all irrational real numbers
(c) set of all real numbers except π
(d) set of all real numbers