

Show work

1. (6 pts) Solve $x(x + 2)(x - 5) < 0$ and express the solution set in interval notation. 1. _____

- A. $(-\infty, -2) \cup (0, 5)$
- B. $(-\infty, 0)$
- C. $(-\infty, 5)$
- D. $(-2, 0) \cup (5, \infty)$

2. (6 pts) Solve $\frac{x+8}{x-1} \geq 0$ and express the solution set in interval notation. 2. _____

- A. $[-8, 1)$
- B. $[-8, \infty)$
- C. $(1, \infty)$
- D. $(-\infty, -8] \cup (1, \infty)$

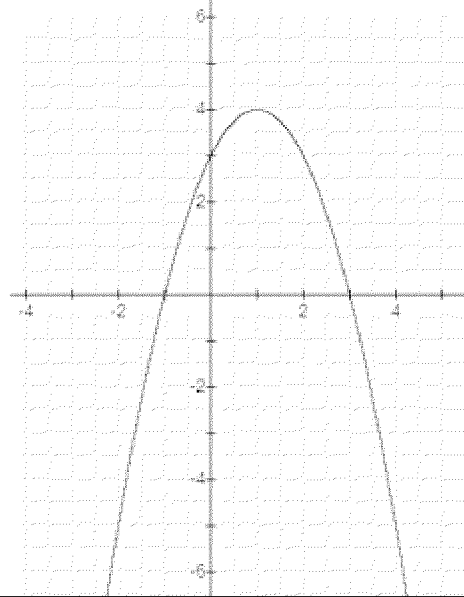
3. (6 pts) The score N on a test varies directly as the number of correct responses x . Fred answers 33 questions correctly and earns a score of 55. What would Fred's score have been if he had answered 48 questions correctly? 3. _____

- A. 60
- B. 63
- C. 75
- D. 80

4. (6 pts) Consider the following graph of a quadratic function $y = f(x)$. (Assume that the domain is all real numbers and the graph continues beyond the graph window.) 4. _____

What is the solution set of the inequality $f(x) \geq 0$?
That is, for what x values is $f(x) \geq 0$?

- A. $(-\infty, 1]$
- B. $(-\infty, 4]$
- C. $[-1, 3]$
- D. $[0, 4]$



5. (6 pts) Which of the following functions is shown in the graph? 5. _____

- A. $f(x) = e^{-x} - 1$
- B. $f(x) = 1 - e^x$
- C. $f(x) = -e^x$
- D. $f(x) = e^{1-x}$

