

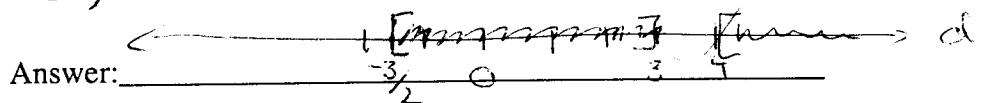
Write your answers in the place provided. Passing is 4 of 5 answers completely correct. You may retake this test if needed. You may not use calculators, notes, books or the paper of another person on this assessment.

1. Solve the equation  $(4 - x)(1 + 3x)(x - 2) = 0$  for  $x$ .

Answer:  $x = 4, -\frac{1}{3}, 2$

2. Solve the inequality  $(d - 3)(2d + 3)(d - 4) \geq 0$  for  $d$  and sketch the solution on a number line.

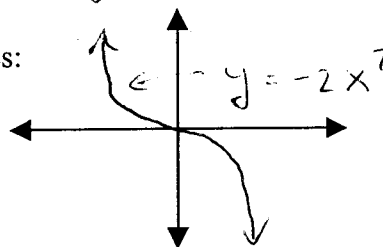
$[-\frac{3}{2}, 3] \cup [4, \infty)$



3. Find the  $x$ - and  $y$ -intercepts of the cubic function  $f(x) = 2x^3 - 18x = 2x(x^2 - 9) = 2x(x - 3)(x + 3)$

$x$ -int.  $0, 3, -3$   
 Answer:  $y$ -int:  $0 = f(0)$

4. Make a rough sketch of the graph of  $y = -2x^7$  on the axes:



5. Find the formula of <sup>a</sup>the polynomial function with graph as to the right:

Answer:  $y = (x + 4)(x + 1)(x - 5)$

