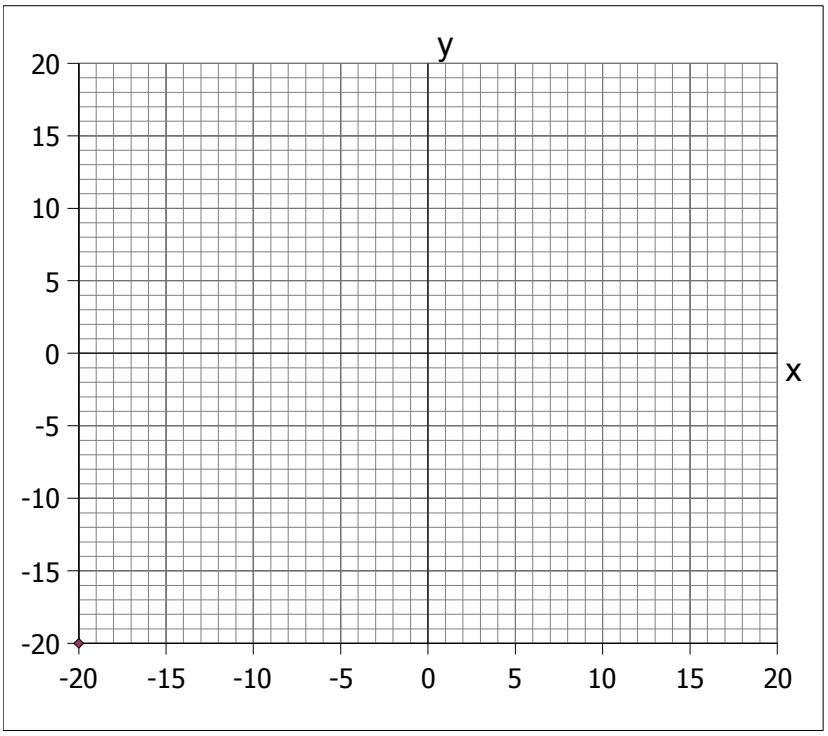
MS 100 College Algebra Midterm summer 2007 **Name:**

1. Sketch a smooth graph of $f(x)=-x^2-7x+18$ on the graph provided to the right. Use this graph for questions two to six.



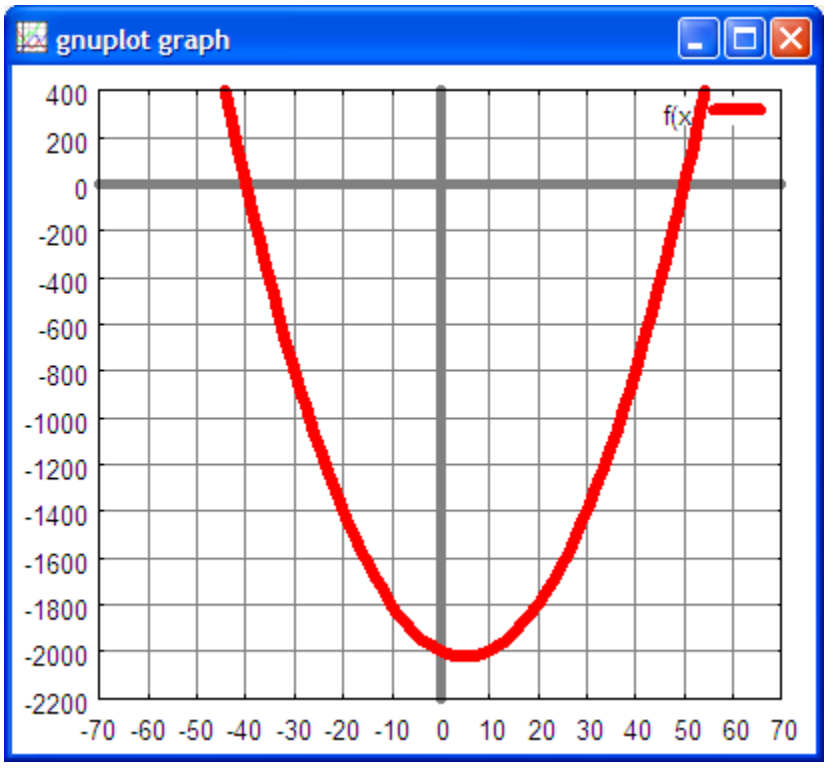
2. Is the curvature positive or negative?

3. On the graph, label the y-intercept for the function sketched for question one.

4. On the graph, label the x-intercepts for the function sketched for question one.

5. On the graph, draw in the axis of symmetry for the function sketched for question one.

6. On the graph, label the vertex for the function sketched for question one.



7. For the function depicted on the right, what is the y-intercept?

y = _____

8. For the function depicted on the right, what are the x-intercepts? Note the x-axis scale at the bottom of the graph.

x = _____, _____

9. Given that the lead coefficient on the x^2 term is one, what is the function that generated the graph above?

f(x) =

10. Find the zeros of the function : $f(x)=-x^2-7x+18$

x = _____ x = _____

11. Solve for x: $x^2-32x+253.75=0$

x = _____ x = _____

12. Solve for x: $x^2-8x+65=0$

x = _____ x = _____

13. Solve for x and write the answer on a number line:

$-17x+14>303$

14. In April 2007 the national campus consumed 134,316 kilowatt-hours of power. In May 2007 the national campus consumed 105,391 kilowatt-hours. What is the percentage change from April to May?

percentage change = _____

15. Is $f(x)=x^2-3x-238$ an equation or a function? _____

16. Find the y-intercept for $f(x)=x^2-3x-238$ y = _____

17. Find the axis of symmetry for $f(x)=x^2-3x-238$ x = _____

18. Find the zeros for $f(x)=x^2-3x-238$

x = _____ , x = _____

19. Find the vertex for $f(x)=x^2-3x-238$

(_____ , _____)

20. Is the curvature positive or negative for $f(x)=x^2-3x-238$?

_____