

Math 105 Exam 2 October 18, 2007
Chapters 1.6 - 2.4

Key

Name _____ Instructor name or section # _____

1	2	3	4	5	6	7	8	9	10	11	total
9	10	5	12	20	16	8	9	3	5	3	100

Given: QF: $ax^2 + bx + c = 0$, then $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Standard form for a circle: $(x-h)^2 + (y-k)^2 = r^2$, General form of a circle: $x^2 + y^2 + bx + cy + d = 0$

midpoint = $\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$, distance formula: $d = \sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2}$.

Show All Work for Full Credit!!

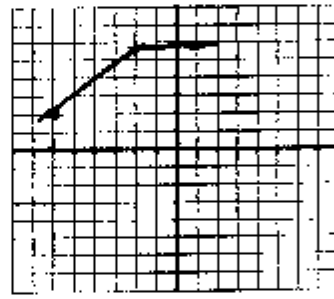
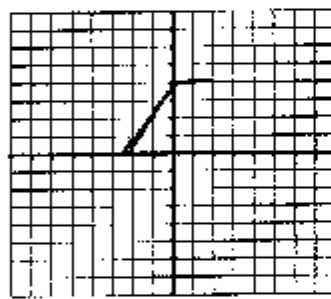
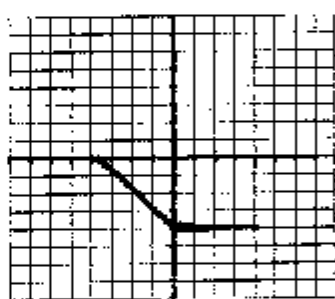
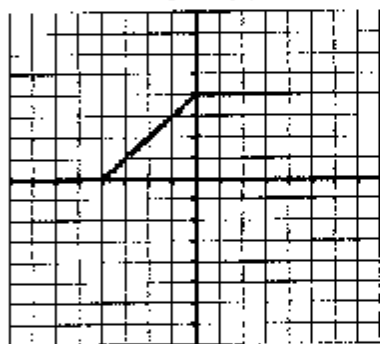
1. (3 pts ea) Use the graph of $y = f(x)$ below to graph the following functions. Tic marks are one unit.

$y = f(x)$

$g(x) = -f(x)$

$h(x) = f(2x)$

$m(x) = f(x+2) + 2$



2. (10 pts) Find and simplify fg and $\frac{f}{g}$ and determine the domain of each if $f(x) = x - 6$ and $g(x) = x + 5$

a.) $(f \cdot g)(x) = \frac{(x+5)(x-6) = x^2 - x - 30}{\text{OK}}$ domain \mathbb{R} or $(-\infty, \infty)$ or $\{x | x \text{ is real}\}$

b.) $\left(\frac{f}{g}\right)(x) = \frac{x-6}{x+5}$ domain $x \neq -5$ or $(-\infty, -5) \cup (-5, \infty)$ or $\{x | x \text{ is real and } x \neq -5\}$

3. (5 pts) For $f(x) = \sqrt{x}$ and $g(x) = x - 4$ find $(f \circ g)(x)$ and its domain

$(f \circ g)(x) = \frac{\sqrt{x-4}}{\text{OK}}$ domain $x \geq 4$ or $[4, \infty)$ or $\{x | x \text{ is real and } x \geq 4\}$