

# MAT 1050 Final Exam Answer Key Fall 2006

1.  $(\sqrt{2} - 5)a + 2a^{\frac{1}{2}} + a^{\frac{3}{2}} + b^{\frac{3}{2}}$

2.  $\frac{y^3}{xz}$

3.  $3 \cdot \sqrt[4]{4} - 4$

4.  $\frac{100}{81}$

5.  $f(7) = -1$  and  $f(11) = -1$

6.  $\Re$

7. They made 35 2-pointers and 8 3-pointers.

8.  $P = \frac{Q - QR}{-1 - Q}$  or  $P = \frac{QR - Q}{1 + Q}$

9.  $\left(\frac{2}{3}, \infty\right)$

10. 6

11.  $6x + 3h + 2$

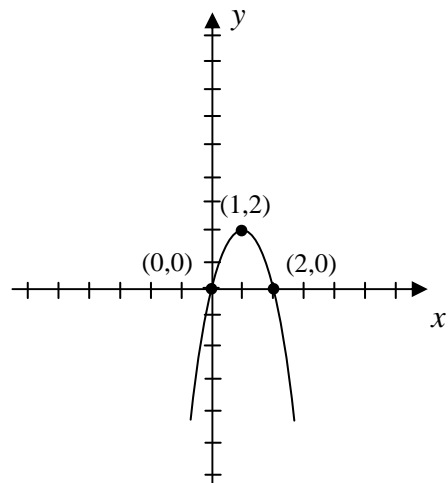
12.  $y = -\frac{3}{2}x - 1$

13.  $x = 2$

14. The area is  $14\sqrt{30}$  (or  $7\sqrt{120}$ ) square feet.

15.  $\left\{ \pm \sqrt{5}i, \frac{1 \pm \sqrt{13}}{2} \right\}$

16. Vertex (1,2)  
Opens down



17.  $\frac{3}{x+2}$

18.  $\{2\}$

19.  $\left[-\frac{1}{2}, 2\right]$

20.  $(-\infty, 4) \cup [9, \infty)$

21. a) Domain  $[-4, -2) \cup (-1, 4]$

b) Range  $[-5, -1) \cup (0, 4]$

c)  $f(2) = 2$  and  $f(-3) = 2$

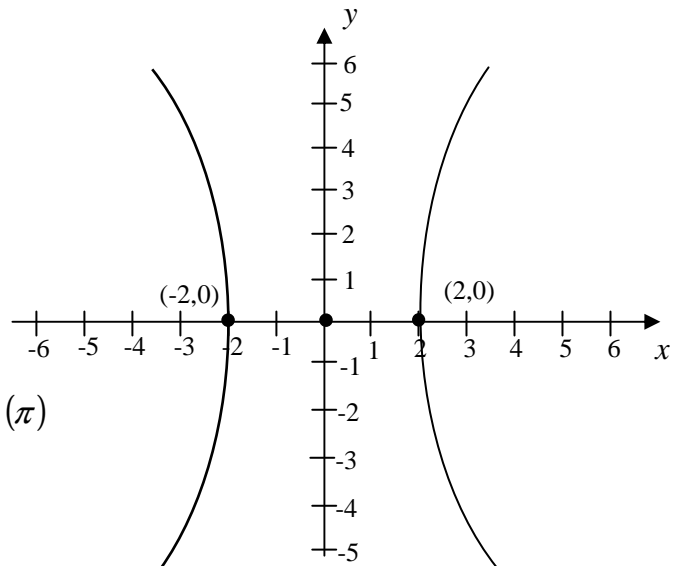
22.  $\{16\}$

23. a) 4    b) -3    c)  $\frac{1}{3}$

24. a) 0.6    b) 0.95    c) -1.8

25.  $\{-3\}$

26. Center  $(0, 0)$   
Hyperbola



27.  $\cos(110^\circ) < \tan(\pi) < \sin(110^\circ) < \log_3(\pi)$

28. a)  $\frac{\pi^2}{36}$  radians    b)  $-\frac{7\pi}{9}$  radians

29. a)  $\frac{4}{\sqrt{41}}$

b)  $\frac{5}{4}$

30. The speed of the boat in still water is 30 mph.