

# ANSWERS TO PRACTICE EXAM #2

1a.  $(e^{-x^2+3})(2x)$       1b. 20

2a.  $(y+2) = -\frac{27}{11}(x-3)$

2b.  $y' = x^{x^2}(2x \ln x + x)$

3a. See EXAMPLE 3 ON PAGE 159

3b.  $6/5$

4a. 10, 15

4b.  $(2x \sin x^3 + 3x^2 \cos x^3) dx$

5a. Max  $f(0) = f(1) = 0$   
Min  $f(-1) = -2$

5b. Max  $f(0) = 9 = f(3)$

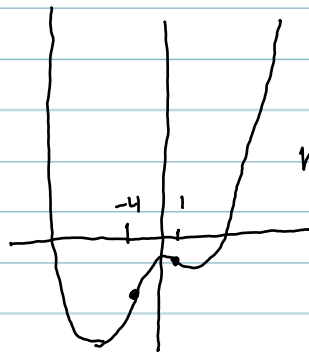
Min  $f(1) = 5$

6.  $c = 3^{2/3}$

7. 11 AM

8a.  $f'(u) = 0$        $u = 0, -6.35, 1.88$

$f''(u) = 0$        $u = -4, 1$



↑  
INFLECTIONS

REL MIN  $x = -6.35$   
 $x = 1.881$

REL MAX  $x = 0$

DEC  $(-\infty, -6.35) \cup (0, 1.881)$

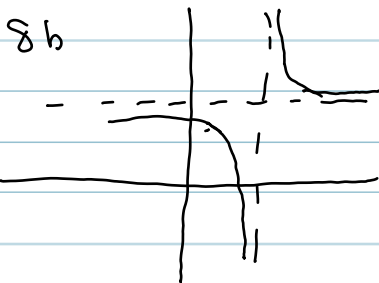
INC  $(-6.35, 0) \cup (1.881, \infty)$

CC UP  $(-\infty, -4) \cup (1, \infty)$

CC DOWN  $(-4, 1)$

9. 0 (just plug in)

10. WORKED IN TEXT



ALWAYS DEC

CC UP  $x > 2$

CC DOWN  $x < 2$

HA  $y = 3$

VA  $x = 2$

8c, 8d from 4.5

NOT ON TEST