

MA 15910 Review Worksheet for Exam 2, Spring 2015

ANSWERS

1) (left to right) $-3.68, -3.9698, -3.996998, -4.002998, -4.0298, -4.28$
Limit appears to be -4 .

2 (a) $\frac{8}{7}$ (b) $\frac{1}{4}$ (c) $\frac{1}{8}$ (d) $\frac{2}{3}$ (e) 0

3 (a) -43 (b) $\frac{3}{5}$

4) 15

5 (a) $\$10$ hundred/item or $\$1000$ /item (b) $\$4$ hundred/item or $\$400$ /item

6) $x = -3, -1, 0, 2, 3, 5$

7 (a) 0 (no profit or loss) (b) -2 or a loss of $\$2$ /item

8) $y' = 15x^4 - 18x^2 + x - 2$ 9) $f'(x) = \frac{-40}{x^5} + \frac{21}{x^4} + 3$

10) $g'(x) = 8x(2x^2 - 5)$ or $16x^3 - 40x$ 11) $24x^3 - 36x^2 + 22x - 4$

12) $q'(x) = \frac{-7(x^2 + 2)}{(x^2 - 2)^2}$ 13) $\frac{dr}{dx} = \frac{15x - 8}{2\sqrt{5x - 4}}$

14) $f'(2) = 5$ 15) $(-4, -6), (-2, -20)$

16) $y = -2x + 9$

17) at 6 hours: growing at 6000 million/hour or 6 billion/hour
at 8 hours: growing at 3072 million/hour or 3,072,000,000/hour