Final Review – Chapters 1, 2, & 3 MA1032 Data, Functions & Graphs

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Consider the following table.

A	0	250	500	750	1000	1250	1500
n	0	1	2	3	4	5	6

Is A a function of n? Is n a function of A?

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On approximately what intervals is the function increasing? Decreasing?



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Does the following table represent a linear function? If so, what is the formula?

Η	20	22	24	26	28	30
t	14.3	12.5	11.1	10.0	9.1	8.3

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Economists study supply and demand. Suppose a company believes there's a linear relationship between the demand for its product and its price. The company knows that when the price of its product was \$3 per unit, the quantity demanded weekly was 500 units, and that when the unit price was raised to \$4, the quantity demanded weekly dropped to 300 units. The company also believes there is a linear relationship between the quantity supplied and its price. The quantity supplied weekly is 100 when the price is \$2 and the quantity supplied rises by 50 units when the price rises by \$0.50.

Find formulas for D(p) and S(p). At what price does the supply meet the demand exactly?

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Find the domain and range of $f(x) = \frac{-1}{(x+1)^2}$.

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Graph the piecewise function

$$f(x) = \begin{cases} x+1, & -2 \le x < 0\\ x-1, & 0 \le x < 2\\ x-3, & 2 \le x < 4. \end{cases}$$

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Find a formula for the exponential function.



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Rank the following investments from best to worst in terms of rate of return.

- Investment A: \$875 deposited at 13.5% per year compounded daily for 2 years.
- Investment B: \$1000 deposited at 6.7% per year compounded continuously for 2 years.
- Investment C: \$1050 deposited at 4.5% per year compounded monthly for 2 years.