Math Sheet

Name _____ Score _____ Teacher _____ Date _____

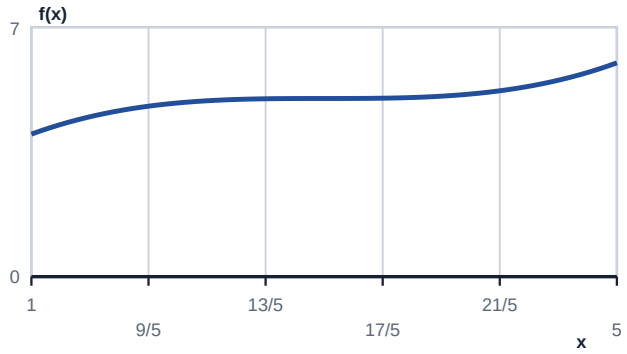
Approximating Area under a Curve

Draw the stated rectangles, then use unrounded function values to calculate the area estimate. Give the final estimate to three decimal places.
Use radians for sine and cosine. Keep full calculator values in the work and round only the final estimate to 0.001.

1. Left endpoint; n = 5

f(x) = 5 + ((x - 3)/2)^3

Interval [1, 5]



Draw the rectangles on the graph.

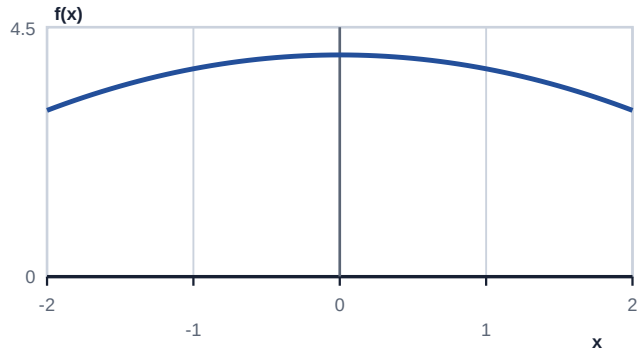
Width: _____

Height sum and area estimate: _____

2. Right endpoint; n = 4

f(x) = 4 - ((x - 0)/2)^2

Interval [-2, 2]



Draw the rectangles on the graph.

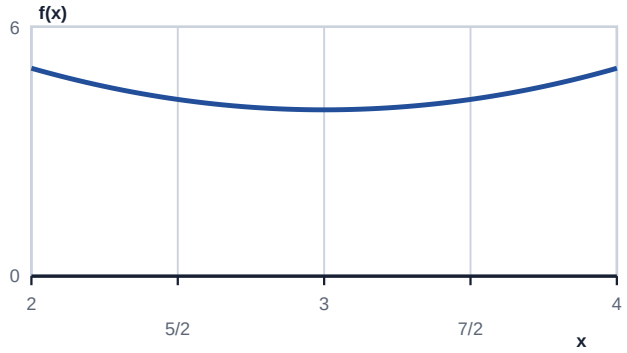
Width: _____

Height sum and area estimate: _____

3. Right endpoint; n = 4

f(x) = 4 + ((x - 3)/1)^2

Interval [2, 4]



Draw the rectangles on the graph.

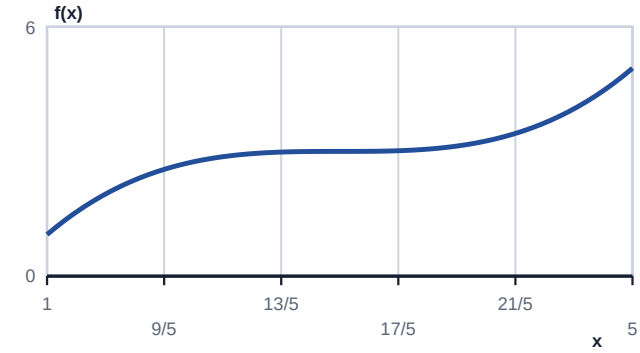
Width: _____

Height sum and area estimate: _____

4. Left endpoint; n = 5

f(x) = 3 + 2*((x - 3)/2)^3

Interval [1, 5]



Draw the rectangles on the graph.

Width: _____

Height sum and area estimate: _____

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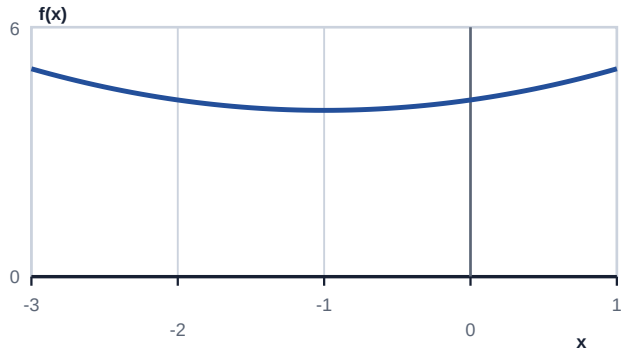
5. Right endpoint; n = 4

f(x) = 4 + ((x + 1)/2)^2

Interval [-3, 1]



Draw the rectangles on the graph.

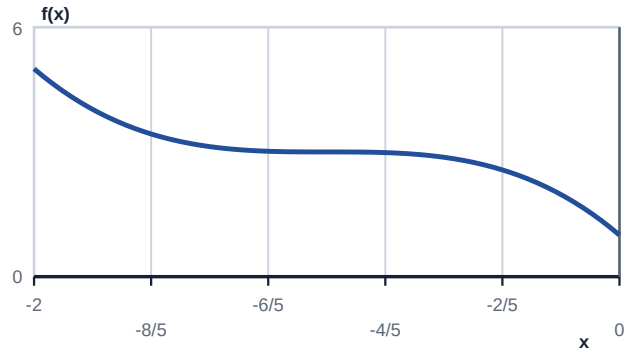
Width: _____

Height sum and area estimate: _____

6. Left endpoint; n = 5

f(x) = 3 - 2*((x + 1)/1)^3

Interval [-2, 0]



Draw the rectangles on the graph.

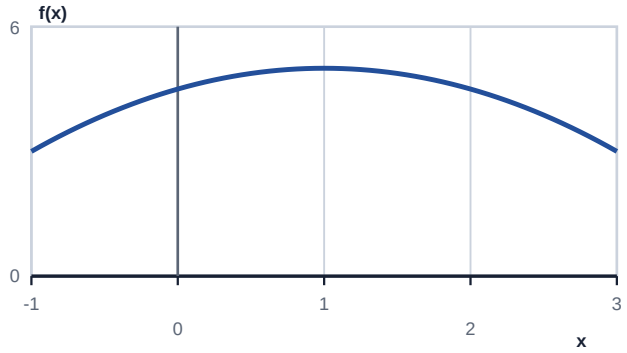
Width: _____

Height sum and area estimate: _____

7. Left endpoint; n = 4

f(x) = 5 - 2*((x - 1)/2)^2

Interval [-1, 3]



Draw the rectangles on the graph.

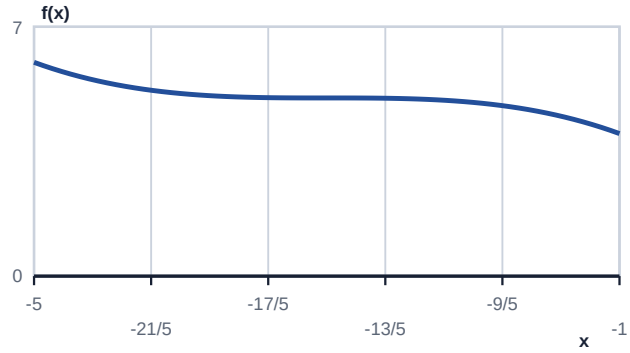
Width: _____

Height sum and area estimate: _____

8. Right endpoint; n = 5

f(x) = 5 - ((x + 3)/2)^3

Interval [-5, -1]



Draw the rectangles on the graph.

Width: _____

Height sum and area estimate: _____