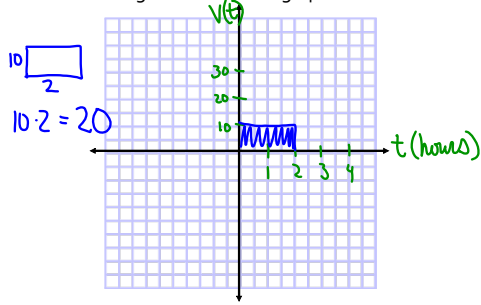


It's warming up outside! I biked at a constant rate of 10 mph for 2 hours. So, I went a total of 20 miles. Easy.

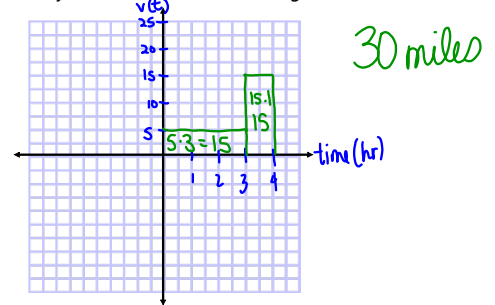
Graph the situation. Let the y-axis be my velocity (rate) and the x-axis be time. How would we get 20 out of this graph??



Mar 21-1:27 PM

It's warming up outside! Let's say this time I went mountain biking. I biked at a difficult 5 mph uphill for 3 hours and then breezed down the mountain at 15 mph for 1 hour, covering a total of _____ miles.

Graph this. Find my total distance traveled using area.



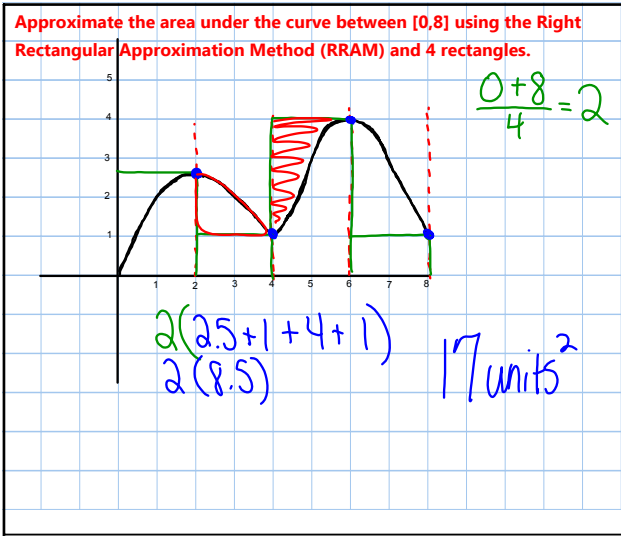
Mar 21-1:34 PM

**To find TOTAL amount,
we find the AREA
under the RATE function.**

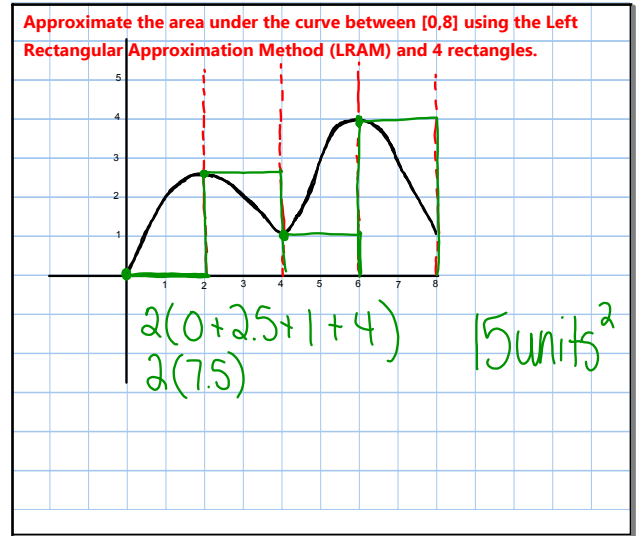
Mar 21-1:41 PM

<http://www.geogebraTube.org/student/m4897>

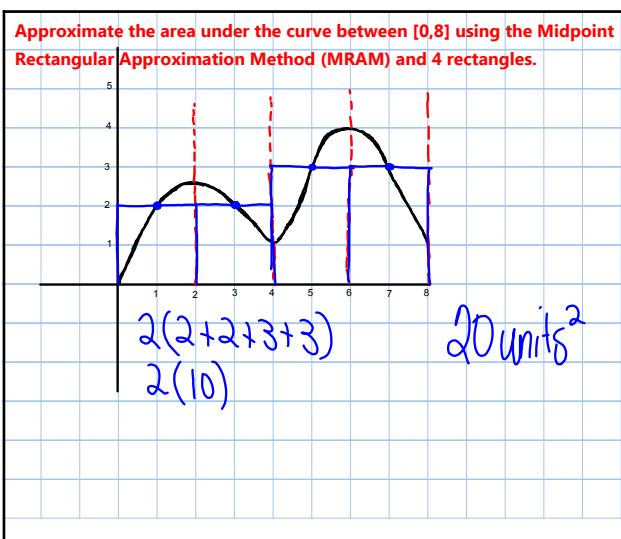
Mar 21-1:16 PM



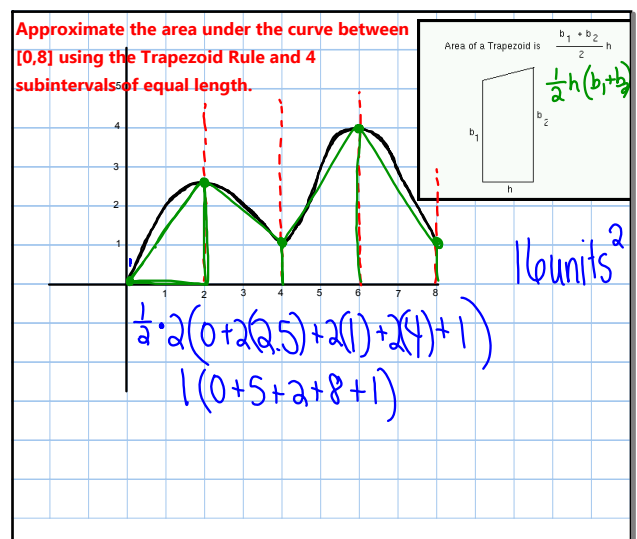
Mar 1-8:34 AM



Mar 1-8:34 AM



Mar 1-8:34 AM



Mar 1-8:34 AM

Find Area Approximations Using a Table

x	-1	-0.5	0	.5	1	1.5	2	2.5	3
f(x)	5	4.25	4	4.25	5	6.25	8	10.25	13

- Approximate the area under f(x) from [-1,3] using the RRAM and 8 subintervals.
 $.5(4.25 + 4 + 4.25 + 5 + 6.25 + 8 + 10.25 + 13)$
 $.5(55)$
 27.5 units^2
- Approximate the area under f(x) from [-1,3] using the LRAM and 8 subintervals.
 $.5(5 + 4.25 + 4 + 4.25 + 5 + 6.25 + 8 + 10.25)$
 $.5(47)$
 23.5 units^2
- Approximate the area under f(x) from [-1,3] using the midpoint method and 4 subintervals.
 $1(4.25 + 4.25 + 6.25 + 10.25)$
 25 units^2
- Approximate the area under f(x) from [-1,3] using the trapezoid method and 4 subintervals.
 $\frac{1}{2} \cdot 1(5 + 2(4) + 2(5) + 2(8) + 13)$
 26 units^2

Mar 15-10:14 AM


HOMWORK

...the area problem

Area Worksheet

Mar 21-2:02 PM


Find the limit:

$$\lim_{x \rightarrow 0} \frac{\sqrt{7-x} - \sqrt{7}}{x}$$


Apr 14-10:15 AM

Questions over Area Worksheet?

RRAM:
 LRAM:
 MRAM:
 Trapezoid:



Mar 21-2:06 PM

Approximate the area under the curve over the interval $[-2,2]$ using

- RRAM and LRAM with 4 subintervals of equal length
- MRAM and Trapezoid Rule with 2 subintervals of equal length.

$y = -\frac{1}{5}x^3 + 2$

Mar 21-2:07 PM

#17 (HW): LRAM, RRAM, MRAM with ____ subintervals


Apr 14-10:16 AM

HOMEWORK
 ...the area problem continued

11.5 (p. 826): 17-20 {LRAM,RRAM,trap},
 21-24 {LRAM,RRAM,trap: 3 subintervals},
 46c {LRAM & RRAM: 6 subintervals;
 MRAM & trap: 3 subintervals}

Mar 21-2:02 PM

Find the limit:

$$\lim_{x \rightarrow 0} \frac{\frac{1}{2+x} - \frac{1}{2}}{x}$$


Apr 14-10:15 AM

2012 AB/BC Question 3

6) g increasing: $(-4,-2)(-1,0)(1,3)$

7) $(9-\pi)/2$ units²

2011B AB/BC Question 5

1) 0.043 m/sec^2

2) 139 (indicate units)

3) 190 (indicate units)

4) 164.5 (indicate units)

Let $f(x) = x^2 + 3x - 5$

a) Use the definition of the derivative to show that $f'(x) = 2x + 3$

b) Use the derivative to find the x -coordinate where the tangent line is horizontal (in this case, the graph's minimum).

Apr 15-8:54 AM

Apr 15-10:08 AM