Trig 3.6

Find the extrema of a function max min

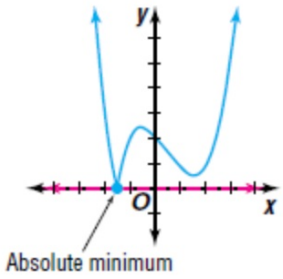
critical point (value, numbers)

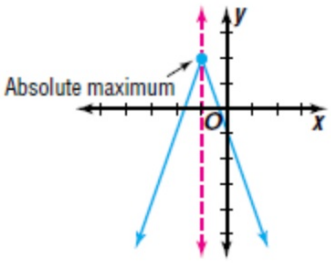
maximum
(absolute, relative)

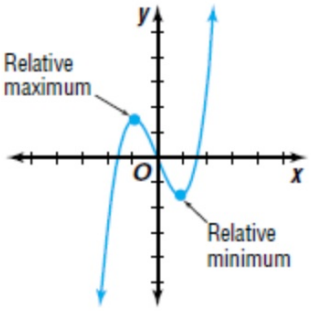
minimum
(absolute, relative)

inflection point (only if asked)

extrema (extremum) data (datum)


y
O
x
Absolute minimum

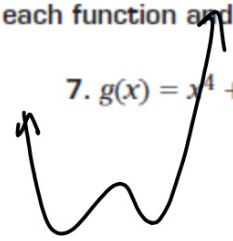

Absolute maximum
y
O
x


y
Relative
maximum
O
x
Relative
minimum

Use a graphing calculator to graph each function and to determine and classify its extrema.

6. $f(x) = 2x^5 - 5x^4$

7. $g(x) = x^4 + 3x^3 - 2$



rel max.
$x = 0$

rel min
$x = 2$ ish

Table... y-coords.
max/min/abs/rel
inflec pt: only if they ask

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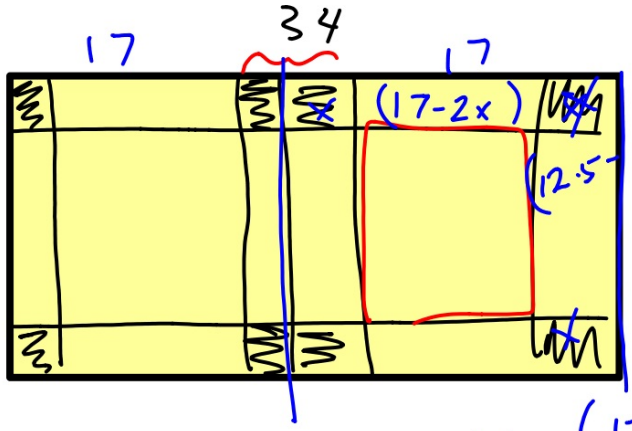
12.5



$V = Bh$

$V = (\quad)2x$

$V = (17-2x)(12.5-2x)(2x)$

$V = 425x - 118x^2 + 8x^3$

max

Quiz Fri. 3.5-3.6

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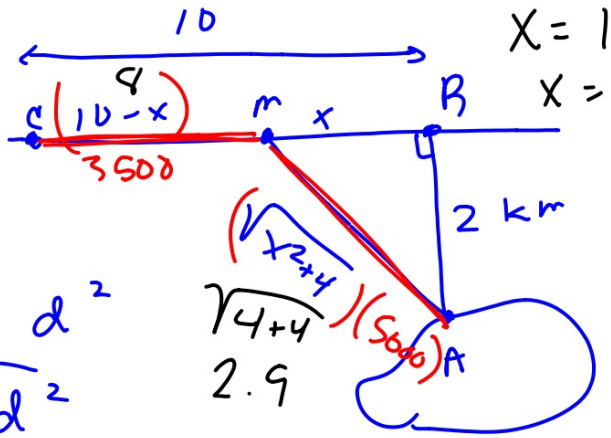

$X = 1.96$

$X = 2$

$\$3500$ km (g)

$\$5000$ km (w)

$x^2 + 2^2 = d^2$

$\sqrt{x^2+4} = \sqrt{d^2}$

$\sqrt{x^2+4} = d$

$x^2 \cdot 4$

$y = (3500)(10-x) + (5000)\left(\sqrt{(x^2+4)}\right)$

min