

Curve Sketching - Key

In problems 1-6, Find the a) domain, b) x-intercept(s), c) y-intercept, d) vertical asymptote(s), e) horizontal asymptote, f) slant asymptote, g) intervals of increasing/decreasing, h) min/max, i) intervals of concavity, j) inflection points and k) graph.

1.

a) domain: $(-\infty, \infty)$

b) $x = 2, x = 7$

c) $y = 14$

d) none

e) none

f) none

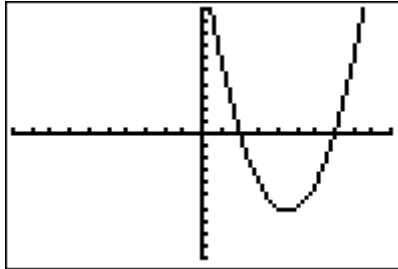
g) dec: $(-\infty, \frac{9}{2})$, inc: $(\frac{9}{2}, \infty)$

h) min: $(\frac{9}{2}, \frac{-25}{4})$

i) conc up: $(-\infty, \infty)$

j) none

k)



2.

a) domain: $(-\infty, \infty)$

b) $x = -2, x = 1$

c) $y = 2$

d) none

e) none

f) none

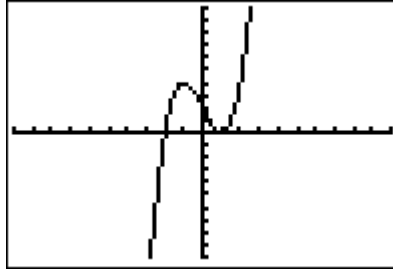
g) inc: $(-\infty, -1)$, dec: $(-1, 1)$, inc: $(1, \infty)$

h) max: $(-1, 4)$, min: $(1, 0)$

i) conc down: $(-\infty, 0)$, conc up: $(0, \infty)$

j) $(0, 2)$

k)



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3.

a) domain: $(-\infty, \infty)$

b) $x = -2, x = 0.3, x = 3.2$

c) $y = 2$

d) none

e) none

f) none

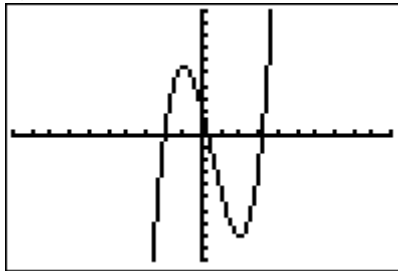
g) inc: $(-\infty, -1)$ dec: $(-1, 2), inc(2, \infty)$

h) max: $(-1, 5.5), min: (2, -8)$

i) conc down: $(-\infty, \frac{1}{2}), conc up: (\frac{1}{2}, \infty)$

j) $(\frac{1}{2}, -1.25)$

k)



4.

a) domain: $(-\infty, \infty)$

b) $x = -3, x = -2, x = 0$

c) $y = 0$

d) none

e) none

f) none

g) dec: $(-\infty, -2.6)$ inc: $(-2.6, -1.2),$

dec: $(-1.2, 0), inc(0, \infty)$

h) min: $(-2.6, -1.6), max: (-1.2, 2.1)$

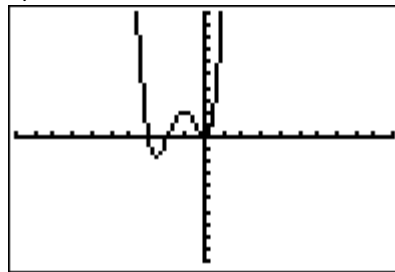
min: $(0, 0)$

i) conc up: $(-\infty, -2), conc down: (-2, \frac{-1}{2})$

conc up: $(\frac{-1}{2}, \infty)$

j) $(-2, 0), (\frac{-1}{2}, 0.9)$

k)



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5.

a) domain: $(-\infty, \infty)$

b) $x = 2$

c) $y = 16$

d) none

e) none

f) none

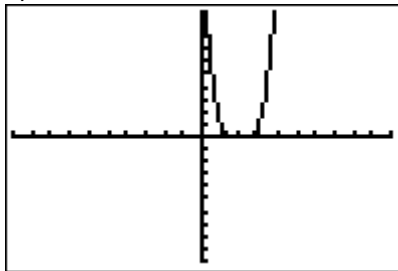
g) dec: $(-\infty, 2)$, inc: $(2, \infty)$

h) min: $(2, 0)$

i) conc up: $(-\infty, 2)$, conc up: $(2, \infty)$

j) none

k)



6.

a) domain: $x \neq 0$

b) none

c) none

d) $x = 0$

e) none

f) none

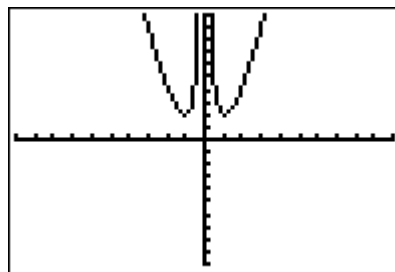
g) dec: $(-\infty, 1)$, inc: $(-1, 0)$

dec: $(0, 1)$, inc: $(1, \infty)$

h) min: $(-1, 2)$, min: $(1, 2)$

i) conc up: $(-\infty, 0)$, conc up: $(0, \infty)$

j) none



Curve Sketching - Key

In problems 7-10, Find the a) domain, b) x-intercept(s), c) y-intercept, d) vertical asymptote(s), e) horizontal asymptote, f) slant asymptote, g) intervals of increasing/decreasing, h) min/max, and i) graph.

7.

a) domain: $(-\infty, \infty)$

b) $x = -2$

c) $y = \frac{1}{2}$

d) none

e) $y = 0$

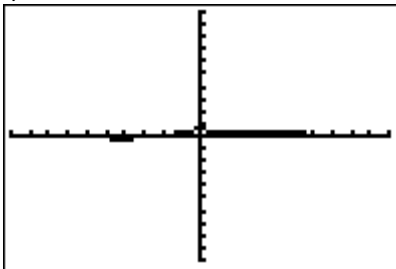
f) none

g) dec: $(-\infty, -4)$, inc: $(-4, 0)$

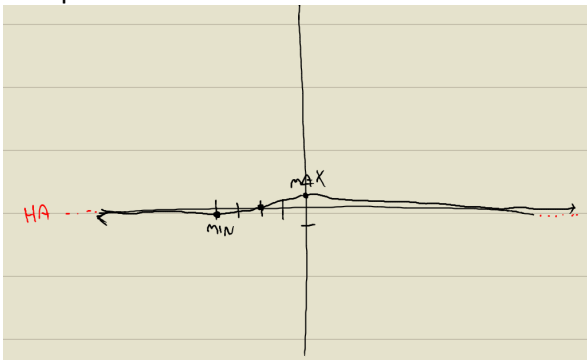
dec: $(0, \infty)$

h) min: $(-4, -0.2)$, max: $(0, 0.5)$

i)



true picture:



8.

a) $x \neq -3$

b) $x = \frac{1}{3}$

c) $y = \frac{-1}{3}$

d) $x = -3$

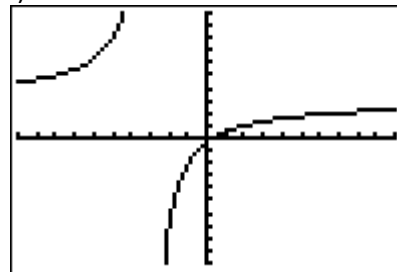
e) $y = 3$

f) none

g) inc: $(-\infty, -3)$, inc: $(-3, \infty)$

h) none

i)



Curve Sketching - Key

9.

a) $x \neq 2, x \neq 6$

b) none

c) $y = \frac{1}{6}$

d) $x = 2, x = 6$

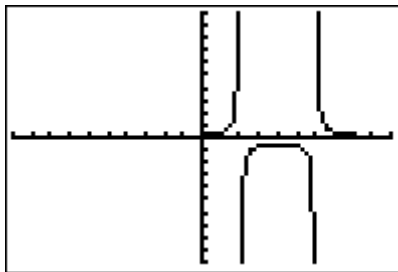
e) $y = 0$

f) none

g) $inc : (-\infty, 2), inc : (2, 4),$

$dec : (4, 6), dec : (6, \infty)$

h) none



10.

a) $x \neq 3$

b) $x = 5, x = 10$

c) $y = \frac{-50}{3}$

d) $x = 3$

e) none

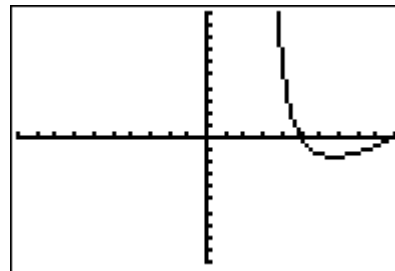
f) $y = x - 12$

g) $inc : (-\infty, -0.74), dec : (-0.74, 3),$

$dec : (3, 6.74), inc : (6.74, \infty)$

h) $max : (-0.74, -16.48)$

$min : (6.74, -1.52)$



true picture:

