

TEST TUE, not MON.

ACT PLAN Test for SOPHS
FRI 8:00.

Calculators:

OK: TI-83, 84

Casio

TI-inspire non CAS

NOT OK: TI-92

TI-ASpire CAS

TI-89

CAS = Computer Algebra
System

Formula Sheet:

vertex form: $y = a(x-h)^2 + k$

a : stretch/shrink/reflect
factor

$|a| > 1$ stretch

$|a| < 1$ shrink

$a < 0$ reflect in
x-axis

(h, k) co-ordinates of
vertex

Formula Sheet:

Standard form: $y = ax^2 + bx + c$ a stretch/shrink/reflect factor
(same as vertex)

c y-intercept

connection
with
vertex
form

$$\left\{ \begin{array}{l} h = -\frac{b}{2a} \\ k = a(h)^2 + b(h) + c \end{array} \right.$$

#7 p. 237

$$f(x) = 2(x+9)^2 - 4$$

Domain: \mathbb{R} Range: $y \geq -4$ minimum: -4

$a = 2$

$h = -9$

$k = -4$

$x = -9$



#15 vertex form:

$$4x^2 - 8x + 2$$

need: a, h, k

$$4 \quad 1 \quad -2$$

$$h = -\frac{b}{2a} = -\frac{-8}{2(4)} = \frac{8}{8} = 1$$

$$k = 4(h)^2 - 8(h) + 2$$

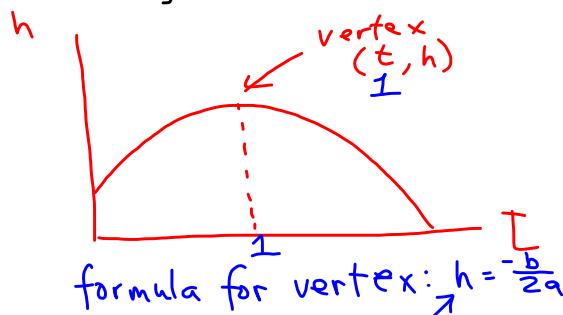
$$= 4 - 8 + 2 = -2$$

vertex form: $y = a(x-h)^2 + k$

$$y = 4(x-1)^2 - 2$$

#19 p. 238

$$h(t) = -16t^2 + 32t + 9$$

height, ft, at t sec.

$$h = -\frac{b}{2a} = -\frac{32}{2(-16)} = 1$$

(a) at $t=1$ reaches max height

(b) height =

$$a(1)^2 + b(1) + c$$

$$= -16 + 32 + 9 = 25 \text{ ft}$$

22 find equation
of parabola passing
through:

$$(4, 10), (0, -18), (-2, -20)$$

$$\begin{array}{cccc} x^2 & x & 1 & y \\ \left[\begin{array}{ccc|c} 16 & 4 & 1 & 10 \\ 0 & 0 & 1 & -18 \\ 4 & -2 & 1 & -20 \end{array} \right] \end{array}$$

$$\text{rref} \left[\begin{array}{ccc|c} 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 3 \\ 0 & 0 & 1 & -18 \end{array} \right] y = x^2 + 3x - 18$$

$$a=1 \quad b=3$$

$$c=-18$$

factoring: #36 p. 230

$$2x^2 - 74x + 12$$

answer

$$\text{GCF: } 2$$

$$2(x^2 - 37x + 6)$$

$$m+n = -37$$

$$m \cdot n = 6$$

$$\begin{array}{r} 6 \\ -1 \overline{) -6} \\ -2 \overline{) -3} \end{array}$$

cannot
be
factored
further