

Name \_\_\_\_\_

Date \_\_\_\_\_

VERTEXMATH • BUILD YOUR OWN • MPM2D GRADE 10

# Quadratics in Vertex Form: your summary

**1** Fill in every blank from memory. No notes.**2** Check it against the Unit Summary in a different colour.**3** Tick ✓ or X on each card. Every X is a topic to review.vertexmath.ca  
Worksheet, answers &  
this cheat sheet

## Which form?

Write the tool for each case.

When does it  
land? Highest point? Height at  $t = 0$ ? **1** The parameter  
 $a$  in  $y = ax^2$ ☒ ☒**1** Order from narrowest to widest:  $y = 0.4x^2$ ,  
 $y = -3x^2$ ,  $y = 1.6x^2$ .**2** Describe  $y = -0.6x^2$  compared with  
 $y = x^2$ .**6** Three forms☒ ☒**8**  $y = x^2 + 4x - 21$ : factored form, zeros,  
then vertex form.**2** Vertex form☒ ☒**3**  $y = 4(x - 7)^2 - 9$ : vertex, axis, maximum  
or minimum, and  $y$ -intercept.**3** Finding the equation☒ ☒**4** Vertex  $(-2, 9)$ , through  $(1, -9)$ . Write the  
equation.**4** Models☒ ☒**5**  $h = -4.9(t - 3)^2 + 50$ . State the  
maximum height, and the other time the  
height equals  $h(1)$ .**5** Completing the square☒ ☒**6** Write  $y = 2x^2 + 20x + 41$  in vertex form.**7** Write  $y = -x^2 + 6x - 4$  in vertex form  
and state the maximum.**My traps** Your three most likely mistakes, and how you will catch each one.**1** \_\_\_\_\_ **2** \_\_\_\_\_ **3** \_\_\_\_\_

**Answers** • Answers to the numbered prompts. Cover this strip until you are done.

**1**  $y = -3x^2$ ,  $y = 1.6x^2$ ,  $y = 0.4x^2$   
**2** Compressed by 0.6 (wider) and reflected:  
**3**  $(7, -9)$ ;  $x = 7$ ; minimum  $-9$ ; 187  
**4**  $y = -2(x + 2)^2 + 9$   
**5** 50 m at  $t = 3$  s;  $t = 5$  s  
**6**  $y = 2(x + 5)^2 - 9$   
**7**  $y = -(x - 3)^2 + 5$ ; maximum 5  
**8**  $(x + 7)(x - 3)$ ;  $-7$ ;  $3$ ;  $y = x^2 + 2x - 25$   
 opens down