Intermediate Algebra

## Target 4.2 Retest Packet © 2014 Kuta Software LLC. All rights reserved. Answer Questions 1 - 7 from the graph below.

1) What is the vertex in the graph?

2) Is it a minimum or maximum?



- 3) What are the x-intercepts?
- 5) What is the domain?
- 7) Write the equation in Vertex Form.

## Answer questions 8 - 14 from the graph below.

8) What are the coordinates of the vertex?



- 10) What are the x-intercepts?
- 12) What is the Domain?
- 14) Write the equation in Vertex Form.

- 4) What are the y-intercepts?
- 6) What is the Range?

9) Is it a minimum or maximum?

- 11) What are the y-intercepts?
- 13) What is the Range?

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## Answer questions 15 - 21 from the graph below.

15) What are the coordinates of the vertex?





17) What are the x-intercepts?

18) What are the y-intercepts?

19) What is the Domain?

20) What is the Range?

21) Write the equation in Vertex Form.

The height of a toy rocket in feet is given by the function  $h(t) = -5t^2 + 40t + 20$ , where t is measured in seconds. Find the maximum height the rocket reaches and the time it takes to reach that height.

- 22) What are the coordinates of the vertex?
- 23) What does this mean in context to the problem?

24) What is the range?

25) What is the initial height?

The height of a yo-yo is given by the function  $h(t) = 2t^2 - 8t + 8$ , where h is given in feet and t is time given in seconds. Find the minimum height of the yo-yo and the time it takes to reach the minimum height.

- 26) What are the coordinates of the vertex?
- 27) What does this mean in context of the problem?

28) What is the range?

29) What is the initial height?

My happiness quotient is given by the function  $h(t) = 4t^2 - 24t + 200$ , where h is measured in happy units and t is measured in hours. Find the minimum happiness units and the time it takes to reach the minimum.

- 30) What are the coordinates of the vertex?
- 31) What does this mean in context of the problem?

32) What is the range?

33) What is the initial happiness quotient?

## Answers to Target 4.2 Retest Packet

1) (-2, -9)	2) minimum	3) (-5, 0), (1, 0)	4) (0, 5)
5) All Real Numbers	6) <i>y</i> ≥−9	7) $y = (x+2)^2 - 9$	8) (1,0)
9) maximum	10) (1,0)	11) (0, -2)	12) All Real Numbers
13) $y \le 0$	14) $y = -2(x-1)^2$	15) (-1, 2)	16) minimum
17) none	18) (0, 5)	19) All Real Numbers	20) $y \ge 2$
21) $y = 3(x+1)^2 + 2$	22) (4, 100)	23) At 4 seconds, the toy re	ocket is 100 feet in the air.
24) $0 \le h \le 100$	25) 20 feet	26) (2,0)	
27) At 2 seconds, the yo-yo is 0 feet from the ground. It hits the ground.			
28) $0 \le h \le 8$	29) 8 feet	30) (3, 164)	
31) At 3 hours, you have 10	64 happiness units.	32) $164 \le h \le 200$	33) 200 happy units