

M123-Intermediate Algebra

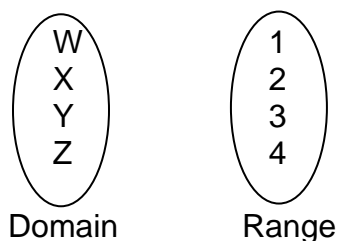
Review for sections 7.1-7.5

Note: This review sheet was created to review the concepts presented in your text. Each instructor may have other problems you should review to prepare for quizzes and exams in your section of the course.

1. Find the function values for the function $h(x) = x^2 - 4x$. (Section 7.1)

- a) $h(0)$ b) $h(b-3)$
c) $h(-2)$ d) $h(4c)$

2. Use the following visual to (i.) illustrate a relation that is also a function and (ii.) a relation that is not a function. (Section 7.3)



3. Find the domain of f . (Section 7.2)

- a) $f(x) = 3x + 2$ b) $f(x) = \frac{7}{x-8}$ c) $f(x) = \frac{x}{x^2 - 4}$

4. Given $g = \{(1,2), (2,3), (3,4), (4,5)\}$. (Section 7.2)

- a) What is the domain and range?
b) Is this an example of a function?

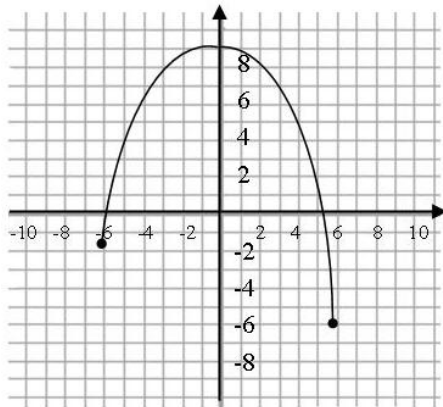
5. Jon rented a van for one day and drove it 250 mi at a cost of \$100. Josh rented the same van for one day and drove it 300 mi at a cost of \$115. Let $C(m)$ represent the cost, in dollars, of driving m miles. (Section 7.3)

- a) Find a linear function that fits the data.
b) Use the function to find out how much it will cost to rent the van for one day and drive it 500 mi.

6. a) Sketch an example of a graph that is a function and explain why your example is a function. (Section 7.3)

- b) Sketch an example of a graph that is *not* a function and explain why your example is *not* a function. (Section 7.3)

7. Use the graph to answer the following questions. (Section 7.1-7.3)



- What is the Domain?
- What is the Range?
- Find $f(x)=7$.
- Find $f(-4)$.
- Is this a function? Explain.

8. For the given pair of functions f and g , determine the domain of the sum, difference, and product of the two functions. (Section 7.4)

$$f(x) = 5x - 1$$

$$g(x) = 2x^2$$

9. Let $f(x) = -4x + 2$ and $g(x) = x^2 + 1$. Find the following: (Section 7.4)

- | | |
|------------------|---------------------|
| a) $f(3) + g(3)$ | b) $g(7) - f(7)$ |
| c) $(f+g)(2)$ | d) $(f \cdot g)(0)$ |
| e) $(f/g)(-5)$ | |

10. The formula $\frac{1}{t} = \frac{1}{a} + \frac{1}{b}$ gives the total time t required for two workers to complete a job, if the workers' individual times are a and b . Solve for t . (Section 7.5)

11. Find the equation of variation in which y varies inversely as x , and $y=3$ when $x=1/4$. (Section 7.5)

12. The surface area of a balloon varies directly as the square of its radius. The surface area is 3.4 in^2 when the radius is 5 in . What is the surface area of a balloon when the radius is 7 in ? (Section 7.5)