

Review 15

1. Simplify $\frac{f^7}{f^3 \cdot f^4}$

2. What is the value of $\frac{9^4 \cdot 3^8}{9^2 \cdot 3}$ in simplest exponential form?

3. $297^0 + 42^0 + 12^0$

4. Find d so that the equation is true: $(4^5)^d = 4^{35}$

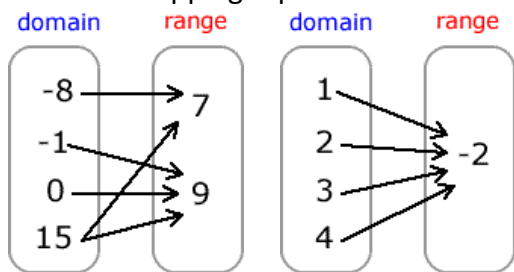
5. Subtract $3x^2 + 8x - 7$ from $5x^2 + 2x - 11$. Express the result as a trinomial.

6. In 2014, the cost to mail a package was \$1.25 for up to one pound. Every additional pound cost 79¢. Write a recursive function that could be used to determine the cost of a 6 pound package?

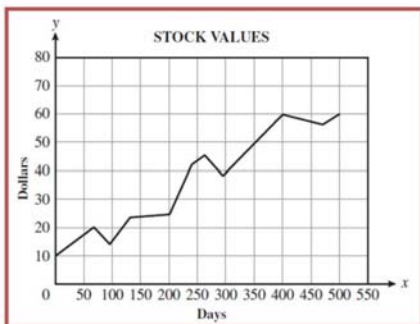
7. If $W_1 R_1 = W_2 R_2$ than what is the value of W_1 ?

8. What is the *maximum* value of the function $y = -|x - 3| + 7$?

9. Which mapping represents a function? How do you know?



10. Describe what is happening in this function graph.



11. Simplify: $3(2y + 3) - 2(4y + 5)$

12. A function is shown in the table. If included in the table, which ordered pair, $(3, -1)$ or $(1, 3)$, would result in a relation that continues to be a function? Explain your answer.

x	f(x)
-4	2
-1	-4
0	-2
3	16

13. Express the product of $2x^2 - 4x + 5$ and $x - 6$

14. You can work a total of no more than 41 hours each week at your two jobs. Housecleaning pays \$5 per hour and your sales job pays \$8 per hour. You need to earn at least \$254 each week to pay your bills. Write a system of inequalities that can be used to represent the situation. Graph the inequalities.

15. The school that Stefan goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 1 child ticket for a total of \$38. The school took in \$52 on the second day by selling 3 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket. Graph the system of equations.

16. Graph the following function.

$$f(x) = \begin{cases} -|x|, & -4 \leq x \leq 2 \\ -4, & 2 < x \leq 6 \end{cases}$$