

**Algebra 1 Mastery Test #2 review**

- .
1.  $3 + 3(4 + 5)^2$
  2. Simplify  $(5 \cdot 6^2 - 5 \cdot 3^2) \div (3 + 2)$ .
  3. Is 5 a solution of  $4w + 5 \geq 14$ ?
  4. Is  $x = 2$  a solution of the inequality  $5x - 2 \geq 7$ ?
  5. A jumbo jet carries 340 passengers, 42 in first class, and the remainder in coach. If the average first class ticket is \$560 and the average coach ticket is \$354, how much will the airline gross if the plane is full?
  6. Find the domain of the function.

Input	Output
8	7
3	5
2	14

7. At 71 km/h, how far can you travel in 4.5 h?

**Write a function rule for the input-output table.**

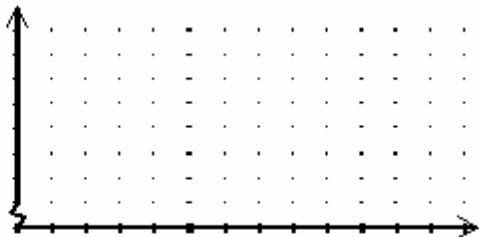
- 8.

Input $x$	2	3	4	5
Output $y$	18	27	36	45

9. Make an input-output table to represent the function. Use 1, 2, 3, 4, and 5 as the domain.  
 $y = 7x + 9$

10. The table shows the study times and test scores for a number of students. Draw a scatter plot of the data. Put study time on the horizontal axis and test score on the vertical axis.

Study Time (min)	8	14	19	26	30	33	35	40
Test Score	60	65	61	70	69	70	75	76



11. Determine whether the relation is a function.

Antonio's age (years)	11	12	13	14	15	16
Antonio's height (inches)	56	57	58	63	65	65

**Simplify:**

12.  $\sqrt{121}$

**Estimate the square root to the nearest integer.**

13.  $-\sqrt{5}$

**Solve the equation.**

14.  $17 = m - 6$

15.  $x + 1 = 30$

16.  $28 = 7y$

17.  $-\frac{x}{7} = 28$

**Solve the equation. Check your solution.**

18.  $\frac{3}{5}x = 60$

**Solve the equation.**

19.  $10x + 5 = 45$

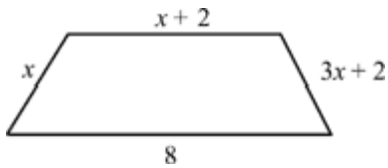
20.  $\frac{2}{12}y + 42 = 0$

**Solve the equation.**

21.  $-5x + 23 + 6x + 13 = 4$

22.  $7x - 1 = x + 2$

23. The trapezoid below has a perimeter of 20. Solve for  $x$ .



**Solve the proportion. Check your solution.**

24.  $\frac{n}{2} = \frac{2}{8}$

25.  $\frac{3}{x-4} = \frac{5}{x}$

26. Solve  $a = \frac{12}{7}x + 24$  for  $x$ .

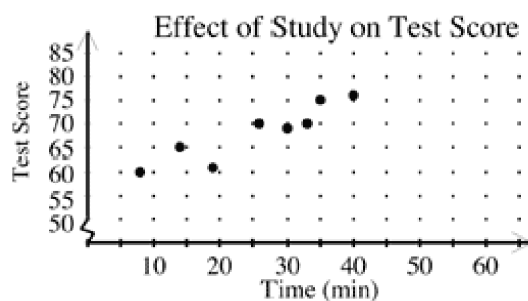
27. Solve  $390 = 7n + p$  for  $p$ .

28. Solve  $310 = kz + c$  for  $k$ .

## Algebra 1 Mastery Test #2 review Answer Section

1. 246
2. 27
3. yes
4. Yes
5. \$129,012
6. The domain is the collection of the input values: 8, 3, and 2.
7. 319.5 km
8.  $y = 9x$
- 9.

Input	1	2	3	4	5
Output	16	23	30	37	44



- 10.
11. Yes, the relation is a function.
12. 11
13. -2
14. 23
15. 29
16. 4
17. -196
18. 100
19. 4
20. -252
21. -32
22.  $\frac{1}{2}$
23. 1.6
24.  $\frac{1}{2}$
25. 10
26.  $x = \frac{7}{12}a - 14$
27.  $p = 390 - 7n$
28.  $k = \frac{310 - c}{z}$