

Cumulative Test

18A

1. (69) A farmer randomly chose 4 pumpkins out of a patch of 15 pumpkins. Three of the pumpkins weigh 15 lb, 18 lb, and 16 lb. What could be the weight of the fourth pumpkin if the average weight of all 4 pumpkins is to be between 15 and 20 lb?

2. (69) Use a table to graph the function $f(x) = -2x^2$.

3. (69) Simplify $\sqrt{1,000,000}$ using powers of ten.

4. (74) Solve $|x - 2| = 9$.

5. (76) Find the product $(3 - \sqrt{2})^2$.

6. (69) A rectangular rug has a length of $\sqrt{98}$ feet and a width of $\sqrt{50}$ feet. What is the rug's perimeter?

7. (73) Write a compound inequality that represents all real numbers that are less than -1 or greater than 4 . Graph the solution.

8. (69) Jed opens a drawer containing T-shirts. There are 5 white shirts, 3 blue shirts, 2 red shirts, and 2 gray shirts. If Jed picks a shirt at random, what is the probability he will pick a white or a blue T-shirt?

9. (69) Find the distance between the points $(2, -3)$ and $(5, 6)$.

10. (67) Factor $3x^2 + 9xy + 4x + 12y$.

11. (62) The stem-and-leaf plot below shows ages of students in a cooking class. Find the median, mode, range, and relative frequency of age 35.

Ages of Students in a Cooking Class

Stem	Leaves
1	6, 8, 8
2	4, 5, 5, 5, 6, 8
3	0, 1, 2, 5, 5, 5, 8
4	0, 2, 9

Key 2 | 4 = 24

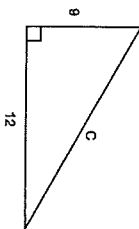
Cumulative Test

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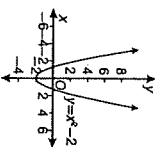
12. (69) Determine whether the binomial below is the difference of two squares. If it is, factor the binomial.
 $36x^2 - 64$

13. (69) Use the Pythagorean Theorem to determine the missing side length c .



14. (76, 81) Choose a factoring method for the polynomial $y^2 - 144$. Explain your choice. Then factor the polynomial.

15. (69) Give the coordinates of the parabola's vertex. Then give the maximum or minimum value and the domain and range of the function.



16. (69) Multiply $\frac{5x^3y}{6x^2y} \cdot \frac{3x^4y^3}{10x^2y^2}$.

17. (69) Add $3x^2 + 5x^2$
 $16x + 16x$

Solve the inequalities in problems 18–20 and graph them on a number line.

18. (77) $-7 + (-3) < -5x - 5$

19. (81) $3(x - 2) + 3x > 10 - 2(2x + 3)$

20. (76) $-3n \leq -9$

