

# [Free case study on answers to exercises](https://assignbuster.com/free-case-study-on-answers-to-exercises/)

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1. Yes, it passes the test. A vertical line does not intersect the function in more than one place.
2. This is a piecewise function and the range is y ≥ 0.
3. The domain is x ≥ -5. The function is not defined for x < -5. 4. The only x intercept occurs at point (3, 0)5. The y intercept occurs at point (0, 3)6. It is a piecewise function. Each piece is linear. 7. The value is f(x= 2) = 3. 8. Yes, the binomial function passes the vertical line test. A vertical line does not intersect the function in more than one place.
9. The range is y ≥ 2.
10. The domain is all values x can take on, namely, all real numbers.
11. There is no x intercept. The lowest value of the function is f(x=-3) = 2. Therefore f(x) never reaches zero so it does not cross the x axis.
12. The y intercept occurs at point (0, 3)
13. Yes, the cubic function passes the test. A vertical line does not intersect the function in more than one place.
14. The figure shows that the function covers all y values. Therefore, the range is all real numbers.
15. The domain is all real numbers. The x coordinate can take on any value.
16. There is only one x intercept and it occurs at point (1, 0)
17. The y intercept occurs at point (0, 1)
18. The cubic function evaluated at x= 2 is f(2) = -1.
19. The inverse function is g(y) = 3y-5
20. The inverse function is g(y) = 6y-7
21. The new function is f+gx = 4x+3
22. The new function is f-gx = 2x-1.
When it is evaluated at x= 5, the result is f-g5 = 9
23. The new function is:
fg(x)= 3x+1x+2= 3x2+6x+x+2= 3x2+7x+2
24. The new function is:
fgx= 3x+1x+2
When it is evaluated at x= 1, the result is,
fg1= 43