

Name:

Date:

Show your work carefully, with valid notation, in each of the problems below.

1. Factor $6x^2 + 19x + 14$.

2. Simplify $\sqrt{300x^{16}y^{17}z}$.

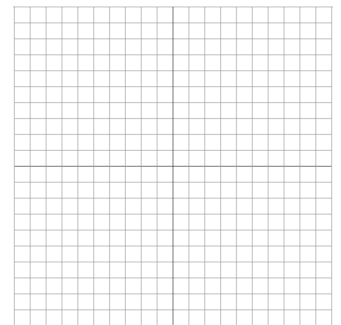
3. Solve $6x^3 + 19x^2 = -14x$.

4. Solve $8x^2 - 3x + 2 = 9$. Round to the nearest hundredth.

5. Convert $y = -3(x - 4)^2 + 1$ to standard form.

6. How many orders can the letters CHOCOLATE be in?

7. Sketch $f(x) = -0.2(x + 3)^2 + 1$. Label the coordinates of the vertex, the y-intercept, and at least three other points.



8. What is the probability that out of four random cards, one is hearts and the other three are not?