

Name: _____

MS3A Exam 5 PRACTICE

1. Solve using the quadratic formula:

$$\frac{x}{x+1} - \frac{2}{x} = 6$$

2. Solve by completing the square: $2x^2 + 3 = 6x$

3. Solve by factoring: $2x + 9 = \frac{18}{x}$

4. Solve for x : $14x - \frac{45}{x} = 17$

5. Around the outside of a rectangular picture 1 foot wide and 2 feet long is a border of uniform width. If the area of the border is twice the area of the picture, find the width of the border.
6. An express train makes a run of 240 miles at a uniform speed. A local train, whose speed is 12 miles per hour slower, takes one hour longer to make the same trip. Find the speed of the express train.
7. It takes Alicea three hours longer to complete a certain job than it takes her sister Carol. They work together for three hours, and then Alicea leaves Carol alone to finish the job in one additional hour. How long would it take each sister to complete the job alone?
8. Working by herself, Mary requires 16 minutes longer than Antoine to solve a math problem. Working together, Mary and Antoine can solve the problem in 6 minutes. About how many minutes will it take Antoine to solve the problem if he works by himself?
9. Harry's garden is 6 m long and 4 m wide. He wishes to double the area of his garden by increasing its length and width by the same amount. Find the number of meters by which each dimension must be increased.
10. Jon paints a picture for his friend Josh. The painting has a width of 40 inches and a height of 28 inches. Josh decides to frame the painting in a frame of uniform width. If the total area of the framed picture is 1,260 square inches, what is the width of the frame?