Do Now: 10/12/16
1. Solve the equation for y: \( xp + yp = z \)
2. Convert 9 gal/sec to qt/min.
3. Solve for b: \( \frac{3}{2b - 1} = \frac{2}{b + 2} \)
4. The original price for a motorcycle is $11,000. The sale price this week is $9799. What is the percent decrease to the nearest percent?

1. \( \frac{1}{6y} = \frac{5}{33} \)

2. From 1945 to 2005, the annual cigarette consumption in the U.S. dropped from 4,123 per person to 1,890 per person. Find the percent of decrease.

3. A particular model rocket kit uses the scale 1:144. The actual rocket is 168 ft tall. How tall will the model rocket be when completed?

4. A copier is set to enlarge a drawing to 128% of the original size. If the copy is 7.04 in wide, how wide was the original drawing?
5. The sun’s rays strike a building and cause it to cast a 15 ft shadow. At the same time, a 5 ft tall girl who is standing next to the building casts a 3 ft shadow. They form similar triangles. How tall is the building?

6. \[ \frac{3}{x - 5} = \frac{10}{x + 2} \]

7. A ship model is 0.8\% of the actual size of the ship. If the model is 1.7 ft long, how long is the ship?

8. Solve for \( y \): \( 5x - y = 25 \)

9. Solve for \( h \):
   \[ \frac{1}{2}h + \frac{1}{3}(h - 6) = \frac{5}{6}h + 2 \]

10. Find three consecutive even integers whose sum is 222.
11. Romeo ordered a bouquet of roses for his girlfriend. Each rose cost $2.95, and the delivery charge was $8.50. If the total cost was $61.60, how many roses did Romeo order?

12. You are riding your bicycle to prepare for a race. It takes you 12 minutes to go 25 miles. What was your speed in miles per hour?

13. Solve for b:

\[
\frac{11b}{6} = b - 5
\]

14. Solve for r:

\[
12 \left(4r - \frac{5r}{6}\right) + 20 = 19r - 15 + \frac{45r}{2}
\]

15. Solve for x:

\[
7(x - 1) = 3(x + \frac{1}{3})
\]

16. Solve for y:

\[
-4x + 8y = 24
\]
17. A yellow jacket can fly 4.5 meters in 9 seconds. How fast in kilometers per hour can a yellow jacket fly?

18. Solve:

\[14 - 3(5t - 12) = 1 - (20t + 1)\]

19. An automobile dealer agrees to cut 5% off the $10,288 sticker price of a new car for a customer. What is the price of the car for the customer?

20. When a tire is labeled "185/70/14," it means it is 185 mm wide, the sidewall height (from the rim to the road) is 70% of its width, and the wheel has a diameter of 14 in. What is the tire's sidewall height?

21. In the late afternoon, a 3.5-ft child casts a 60-in shadow. The child is next to a telephone pole that casts a 50-ft shadow, forming similar triangles. How tall is the telephone pole?

22. Solve

\[\frac{5n + 1}{8} = \frac{3n - 5}{4}\]
23. The scale on a map is 1 in : 0.5 mi. You measure 6.5 in. between two towns. What is the actual distance?

24. The Sun Spa charges annual dues of $125 plus $10 per hour to use the facilities. The Moon Spa charges annual dues of $250 plus $7 per hour to use the facilities. For what number of hours would the two spas charge the same total amount?