1. Convert $\frac{8}{13}$ to percent form. (Mixed numeral %)

2. Convert $32\frac{3}{4}\%$ to a fraction form

3. (a) What percent of 60 is 13.5?
(b) 57 is 19% of what number?

4. We are at a sale offering a 17% discount on all items.
   (a) Find the sale price of an item whose regular price is $415.00
   (b) Find the regular price of an item whose sale price is $321.50

5. If the sales tax rate is $8\frac{1}{4}\%$ how much do we have to pay for an item priced at $179.99? (There is no discount.)

6. We borrow $542.00 for 120 days at a $6\frac{1}{2}\%$ simple interest rate. Find
   (a) the interest
   (b) the payoff amount.

7. $500.00$ is borrowed for 60 days at simple interest, and $503.00$ is paid off. Find the interest rate, accurate to three digits, and expressed as a percent.

8. $765.00$ is deposited and left in an account with an interest rate of $3\%$
   Find the total amount in the account after 18 years with
   (a) annual compounding
   (b) quarterly compounding

9. The shaded figure below is formed by removing a triangle from a rectangle.

   (a) Find the perimeter of the figure.
   (b) Find the area of the figure.
10. A triangle has base 22 cm and height 15 cm. Find its area.

11. A circle has circumference 99 ft. Find its radius, to three decimal places.

12. A right triangle has sides of lengths 15 cm and 8 cm, adjacent to the right angle. Find the length of the hypotenuse, giving both radical form and calculator value. Draw a diagram of the triangle.

13. Classify as rational or irrational, and write down your calculator value.
   (a) $\sqrt{0.289}$ _________________________________
   (b) $\sqrt{0.0289}$ _________________________________

14. Given the equation $5x + 3y = 15$, complete the table, plot the points and graph the line.

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
15. Given the equation \( 5x - 6y = 42 \) find \((x, y)\)-coordinates for
   (a) the \(x\)-intercept
   (b) the \(y\)-intercept

   (a) \(0.087 \text{ dam} = \) _______________ cm
   (b) \(580 \text{ cm}^3 = \) _______________ liter
   (c) \(6.5 \text{ ha} = \) _______________ \(m^2\)
   (d) \(87000 \text{ mg} = \) _______________ kg

17. Convert. Round to three decimal places, but show your work.
   (a) \(194.00 \text{ mile} = \) _______________ km
   (b) \(4.685 \text{ ft} = \) _______________ dm
   (c) \(25.30 \text{ dal} = \) _______________ gal
   (d) \(41.00 \text{ Acre} = \) _______________ ha
   (e) \(0.975 \text{ kg} = \) _______________ oz avdp
   (f) \(4.25 \text{ fl oz} = \) _______________ ml

18. A rectangular room measures 12.3 ft by 14.1 ft.
    Find the length of a diagonal from one corner to another, to one decimal place.

19. A triangle has sides measuring 13 cm, 84 cm, and 85 cm.
    Decide if it is a right triangle or not.

20. Decide if the numbers in the table are rational or irrational.
    If rational, give an equivalent reduced fraction.
    If irrational, give your calculator display as an approximation.

<table>
<thead>
<tr>
<th>Number</th>
<th>Rational or Irrational</th>
<th>Fraction or Approximation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\sqrt{0.121})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\sqrt{0.0121})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\sqrt{1.7})</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Simplify the ratio. 2.5 feet to 32 inches.

GO TO PAGE 4.
22. Solve the proportion \[ \frac{13}{X} = \frac{6\frac{1}{2}}{8\frac{1}{2}} \]

23. If 8\(\frac{1}{2}\) yd of cloth require 5 ounces of dye, how much cloth could be dyed with 8 ounces of dye? Set up an appropriate proportion for the problem, then solve.

24. We are at a sale offering a 16\% discount on all items.
   (a) Find the sale price of an item whose regular price is $325.00.
   (b) Find the regular price of an item whose sale price is $361.19.

25. If the sales tax rate is 8\(\frac{1}{4}\)% how much do we have to pay for an item priced at $299.99? (There is no discount.)

(100 points, total.)