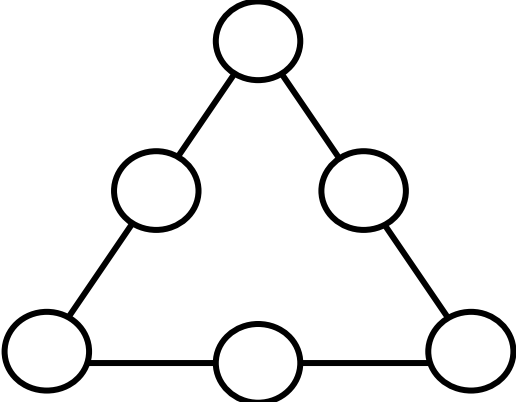
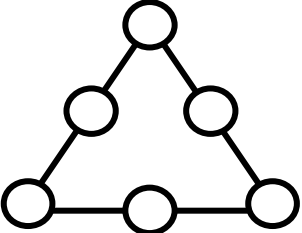
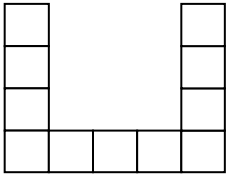
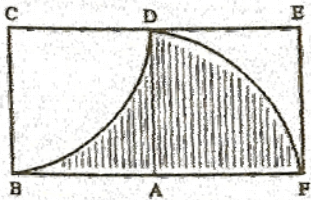


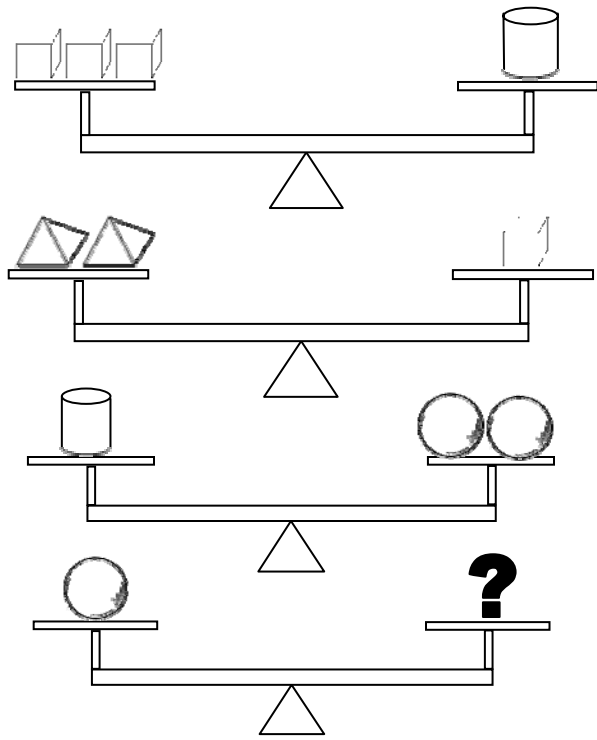
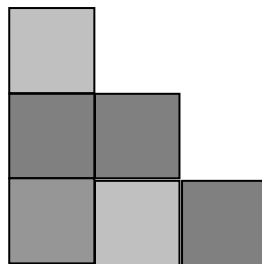
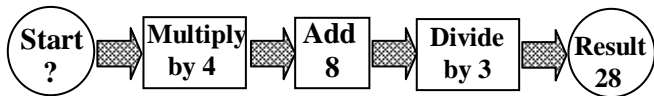
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1.	<p>For this triangle, place the numbers 1, 2, 3, 4, 5, and 6 in the circles shown below. Only one number may be placed in a circle and all numbers must be used. When the final arrangement is complete, the sum of each side's three numbers must all be the same number.</p> <div style="text-align: center;">  </div>	<p>1.</p> <div style="text-align: center;">  </div>
2.	<p>The U-shaped figure below contains 11 squares of the same size. The area of the U-shaped figure is 176 square inches. How many inches are there in the perimeter of the U-shaped figure?</p> <div style="text-align: center;">  </div>	<p>2. _____ inches</p>
3.	<p>As shown, ABCD and AFED are squares with a common side AD of length 10 cm. Arc BD and arc DF are quarter circles. How many square centimeters are in the area of the shaded region?</p> <div style="text-align: center;">  </div>	<p>3. _____ cm²</p>

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4.	<p>In the addition problem below, each letter stands for a digit from 1 to 9 and different letters stand for different digits. What digits do the letters H, E, and A each represent?</p> $ \begin{array}{r} H \ E \\ H \ E \\ H \ E \\ + H \ E \\ \hline A \ H \end{array} $	<p>4. H = _____ E = _____ A = _____</p>
5.	<p>Glen, Harry, and Kim each have a different favorite sport among tennis, baseball, and soccer. Glen does not like baseball or soccer, Harry does not like baseball. Name the favorite of each sport.</p>	<p>5. Glen: _____ Harry: _____ Kim: _____</p>
6.	<p>A and B are whole numbers, and $\frac{A}{11} + \frac{B}{3} = \frac{31}{33}$ Find A and B.</p>	<p>6. A = _____ B = _____</p>
7.	<p>From a pile of 100 pennies, 100 nickels, and 100 dimes, select 21 coins which have a total value of exactly \$1.00. In your selection you must also use at least one coin of each type. How many coins of each of the three types should be selected?</p>	<p>7. Pennies: _____ Nickels: _____ Dimes: _____</p>

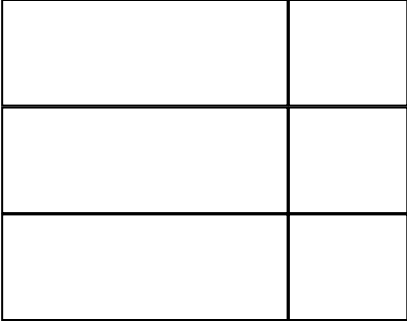
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8.	<p>What whole shapes must be added to balance the fourth scale?</p> 	8. _____
9.	<p>Study this picture of a 3-step staircase. How many blocks would you need for a 20-step staircase?</p> 	9. _____ blocks
10.	 <p>What should the starting number be in the above diagram?</p>	10. _____

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11.	In a group of 30 high school students, 8 take French, 12 take Spanish and 3 take both languages. How many students of the group take neither French nor Spanish?	11. _____ students
12.	<p>Given the fraction below, express the fraction as a simple fraction in lowest terms.</p> $\frac{1}{2 + \frac{1}{2 + \frac{1}{2 + \frac{1}{2}}}}$	12. _____
13.	Rectangular cards, 2 inches by 3 inches, are cut from a rectangular sheet 2 feet by 3 feet. What is the greatest number of cards that can be cut from the sheet?	13. _____
14.	It is the grand opening of a local supermarket. Every 5 th customer will receive a coupon for a free turkey and every 7 th customer will receive a coupon for a free half gallon of ice cream. If 400 customers come in on opening day, how many will get coupons for a free turkey and a free half gallon of ice cream?	14. _____
15.	If we count by 3s starting with 1, the following sequence is obtained: 1, 4, 7, 10, ... What is the 100 th number in the sequence?	15. _____
16.	<p>In the multiplication problem below, A and B stand for different digits. Find A and B.</p> $\begin{array}{r} A B \\ x B A \\ \hline 1 1 4 \\ 3 0 4 0 \\ \hline 3 1 5 4 \end{array}$	<p>16. A = _____ B = _____</p>

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17.	In a stationary store, pencils have one price and pens have another price. Two pencils and three pens cost 78¢. Three pencils and two pens cost 72¢. How much does one pencil cost?	17. _____
18.	Six people attended a party. If all guests shook hands with everyone else (no pair shook hands more than once), how many handshakes were there?	18. _____
19.	<p>While flying over farmland, a pilot notices the rectangular shape of the fields below. She sketches the lines that divide the fields. When she returns to the airport, she wonders how many different rectangles can be formed by the lines drawn below.</p>  <p>Hint: Don't forget that a square is also a rectangle.</p>	19. _____
20.	An example of consecutive odd numbers is 23, 25, 27, and 29. Find four consecutive odd numbers with the sum of 160.	20. _____