

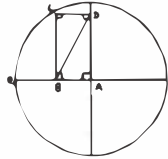
# I Gottcha!

contributed by *Jay Caturay*

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I wonder how many of our readers can give the answers to the following problems within 10 seconds for each question?

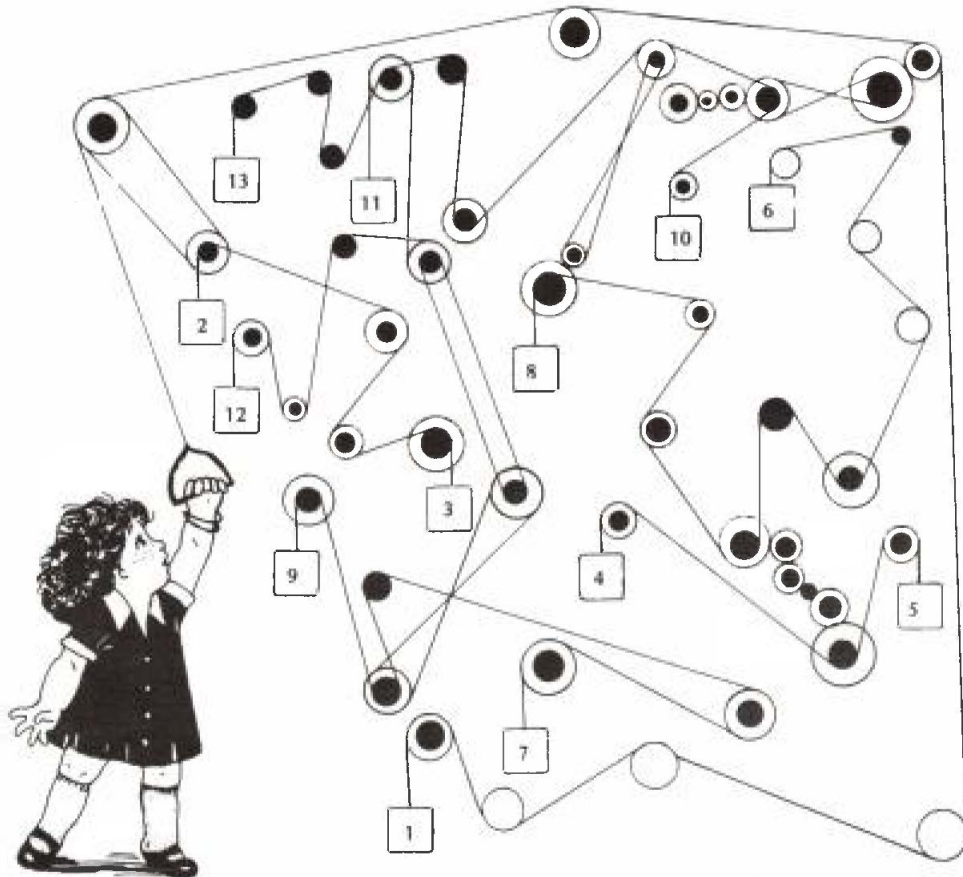
1. What is 32% of 25?
2.  $\frac{3}{8} + \frac{2}{3} - \frac{1}{24} =$
3. Thirty divided by a half.
- 4.



Given:  
radius  $\overline{AE} = 10$  cm  
 $\overline{BE} = 2$  cm  
Find:  $\overline{BD}$

Answers:

1. 8     $\frac{32}{100} \times 25 = 32 \times \frac{25}{100} = 32 \times \frac{1}{4} = 8$
2. 1     $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$   
 $\frac{3}{8} + \frac{2}{3} = \frac{9 + 16}{24} = \frac{25}{24}$
3. 60, not 15  
 $\frac{30}{\frac{1}{2}} = \frac{30 \times 2}{1} = 60$
4.  $\overline{BD} = 10$  cm    Draw  $\overline{AC}$      $\overline{AE} = \overline{AC}$ ,  $\overline{AC} = \overline{BD}$   
Hence  $\overline{AE} = \overline{BD} = 10$  cm



## PULLEY PROBLEM

When Josie pulls down on the lever, the whole system of loads, belts, and pulleys will begin to move. Which loads will go up, and which loads will come down?

Remember: wheels belted to each other revolve in the same direction, unless the belt crosses itself. In that case, the wheels revolve in opposite directions. Wheels in contact with each other on their outer rims will rotate in opposite directions.

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