

24[®] game

Teacher's Tools | Classroom Activities



Activity—Multiple Solutions

Editions used: Single Digits; Double Digits; Fractions; Decimals; Exponents; Integers

Select a 1 Dot card from the deck or from the First In Math website. Write the numbers from the card on the board.

Ask a student to give a solution. Write the first answer on the board and ask if anyone can solve the card in a different way. Many cards will have more than one solution. Possible solutions for card shown:



$$8 \times 4 = 32; 5 + 3 = 8; 32 - 8 = 24$$

$$5 - 4 = 1; 8 \times 3 = 24; 24 \div 1 = 24$$

$$8 + 4 = 12; 5 - 3 = 2; 12 \times 2 = 24$$

$$5 - 3 = 2; 8 - 2 = 6; 6 \times 4 = 24$$

For further challenge, try these activities:

1) Have students write their solutions on paper. Ask the students for their answers and write them on the board for all to see and discuss. After the class has worked as a group on this activity, students can work individually, in pairs or in small groups with cards you have given them from the classroom deck. Repeat this activity as often as necessary with the class using various cards. It may be used as a warm-up activity.

2) Working in groups of three, students choose a card from the deck. Have students give alternate solutions. To increase difficulty, set a time limit for each student to find an answer. For example, each student has 15 seconds to state an answer. The student who answers last keeps the card and chooses the next card to be played.

3) To encourage students to think creatively, award points according to the order in which the students give answers. For example, the first answer receives 1 point, the second answer receives 2 points, etc.

4) Divide students into groups. Draw three or more cards on the blackboard. Set a time limit at the end of which each group shares their answers. Award points to each group for each answer they find. Bonus points are given for an answer found by only one group.

5) Instead of writing each answer in three separate steps, have students write an equation using correct order of operations. Using the answers given for the previous card, the following are examples of how the solutions could be written:

$$(8 \times 4) - (5 + 3) = 24$$

$$8 \times 3 \div (5 - 4) = 24 \quad \text{or} \quad (8 \times 3) / (5 - 4) = 24$$

$$(8 + 4) \times (5 - 3) = 24 \quad \text{or} \quad (8 + 4)(5 - 3) = 24$$

$$(8 - 5 + 3) \times 4 = 24 \quad \text{or} \quad 4(8 - 5 + 3) = 24$$