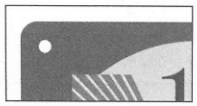
INSTRUCTIONS FOR INTEGERS EDITION

#33576 INTEGERS (96 cards—1, 2 & 3 Dot)

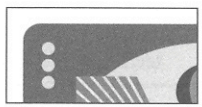
24® GAME CARDS are printed on both sides, each with a different set of four numbers.

Cards are worth 1, 2 or 3 points, rated by difficulty. Look at the corner of a card to tell if it's worth 1 point (1 white dot), 2 points (2 red dots) or 3 points (3 yellow dots). All 9's are "filled in" in red.



1 point

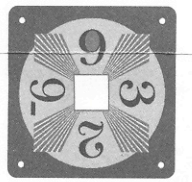
2 points



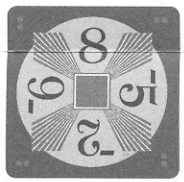
3 points

OBJECT is to make a positive 24 with all four numbers on a card. **You can add, subtract, multiply and divide. You must use all four numbers, but use each only once.**

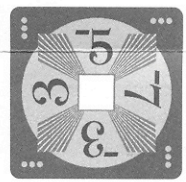
EXAMPLES



3 x 9 = 27
⁻6 ÷ 2 = ⁻3
27 + ⁻3 = 24

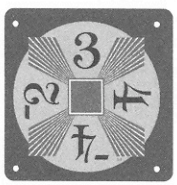


⁻5 x ⁻2 = 10
10 + 8 = 18
18 − ⁻6 = 24



⁻5 x ⁻3 = 15
15 + ⁻7 = 8
8 x 3 = 24

INCORRECT SOLUTIONS



⁻2 ÷ ⁻2 = 1
1 x 3 = 3
4 − ⁻4 = 8
3 x 8 = 24

Incorrect: The number ⁻2 was used twice. Use each number only once.

⁻2 + ⁻4 = ⁻6
⁻6 + ⁻6 = ⁻12
3 x 4 = 12
12 − ⁻12 = 24

Incorrect: The number ⁻6 was used twice. You can use the result of an operation only once, as well.

3 x ⁻4 = ⁻12
⁻12 x ⁻2 = 24

Incorrect: Only 3 numbers were used. You must use all 4 numbers.

For further challenge, try to make negative 24. (All cards can make both positive and negative 24.) There is at least one solution for each card.

HOW TO PLAY WITH TWO OR MORE PLAYERS

1. Any number of players can play. Count off 12 to 24 cards from the deck (use 1 point cards for an easy start). Put cards in center of table. All players are playing at the same time, for the same top card.

2. Win a card by being the first to touch the card and give a correct solution. Once you take your card, the next card is in play.

For tournament-style play, you must announce the pattern (last step of your solution to make 24; i.e. "3 times 8" or "15 plus 9") within 3 seconds of touching the card. The complete solution (all three steps) must be completed within 15 seconds. You cannot change the pattern that you stated within the first 3 seconds, and must complete your solution using the same pattern.

3. The winner is the player with the most points after all cards are claimed. Add up the point value of your cards. (Example: If you have four 1 point and three 2 point cards, your score is 10 points.)

Use 1 and 2 point cards to start. Add 3 point cards as you improve.

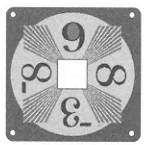
When you make a false claim by touching the card, but can't quickly give a solution, you lose your right to win that card. The card is returned to the deck to be played later.

When players can't find a solution: Every card has at least one solution...some have more. If a card stumps all players, that card can be put aside.

THE SECRET IS TO LOOK FOR PATTERNS

Mathematics is the science and language of patterns. Look for patterns to make 24 and you will excel at the ***24*** game... and at mathematics. The most common patterns are 3 x 8, 4 x 6 and 2 x 12. Other patterns include 15 + 9, 18 + 6 and 21 + 3.

If you see a ⁻3 on the card, try to make an ⁻8 with the other numbers.



9 − 8 = 1
1 x ⁻8 = ⁻8
⁻8 x ⁻3 = 24

If you see a 6 on the card, try to make a 4 with the other numbers.

2 − ⁻3 = 5
5 + ⁻1 = 4
4 x 6 = 24

If you see a ⁻6 on the card, try to make a ⁻18 with the other numbers to make ⁻24.

⁻1 − 8 = ⁻9
⁻9 − 9 = ⁻18
⁻18 + ⁻6 = ⁻24

INTEGERS EDITION
SUGGESTED CLASSROOM ACTIVITIES

Some cards have multiple solutions. Play individually or in groups to find as many as possible. If playing in pairs or groups, alternate giving solutions until no more are found.

Each student (or group) lays out six cards on their desk. Choose one person to be the caller. The caller states a pattern to make 24, for example "15 + 9." If a student has a card that can be solved by that pattern, she may cover that card with a piece of paper. The game continues until one student has covered all six cards on the desk.

Lay nine cards out on the table. Students race to be the first to claim three cards that can be solved by the same pattern. For more challenge, students race to find a pattern that can claim the most cards. New cards can be dealt to replace those taken.

Challenge students to write their answers using the correct order of operations. For example: The card $^{-}5$, 4, $^{-}2$, 2 can be solved $^{-}5 + 2 = {}^{-}3$, $4 \times {}^{-}2 = {}^{-}8$, $^{-}3 \times {}^{-}8 = 24$. Students must write their answer in one equation: $(^{-}5 + 2)(4 \times {}^{-}2) = 24$.

Strategies—Choose one number on the card and turn the other three into the numbers you need. For example: If you have a 4, try and make a 6, 20, 28 or 96.

Look at the numbers not as four independent numbers, but as two pairs. For example: On the card 8, $^{-}7$, $^{-}5$, $^{-}4$. Pair the $^{-}7$ & $^{-}5$ (add) to make a $^{-}12$, and the 8 & $^{-}4$ (divide) to make a $^{-}2$, so $^{-}12 \times {}^{-}2 = 24$. Or, pair the 8 & $^{-}7$ to make a $^{-}15$, and the $^{-}5$ & $^{-}4$ to make a $^{-}9$, so $^{-}15 + {}^{-}9 = {}^{-}24$.

PATTERNS THAT MAKE THE TARGET NUMBER 24 ON INTEGERS CARDS.

6 x 4	12 + 12	23 + 1	34 − 10
8 x 3	13 + 11	24 + 0	35 − 11
12 x 2	14 + 10	25 − 1	36 − 12
24 x 1	15 + 9	26 − 2	39 − 15
24 ÷ 1	16 + 8	27 − 3	40 − 16
48 ÷ 2	17 + 7	28 − 4	42 − 18
72 ÷ 3	18 + 6	29 − 5	44 − 20
96 ÷ 4	19 + 5	30 − 6	45 − 21
120 ÷ 5	20 + 4	31 − 7	46 − 22
144 ÷ 6	21 + 3	32 − 8	48 − 24
192 ÷ 8	22 + 2	33 − 9	

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