Pattern and Relations 4
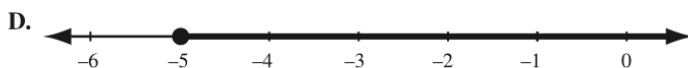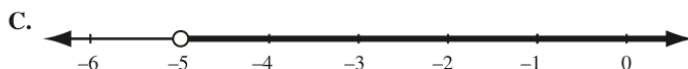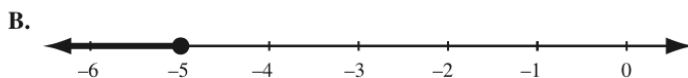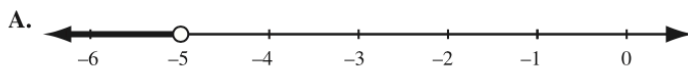
6. The solution to the inequality $6 - x > -1$ is
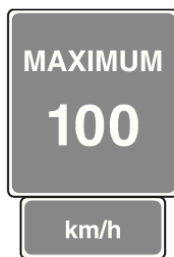
    A. $x < 7$

    B. $x > 7$

    C. $x < -7$

    D. $x > -7$

8. Which of the following number lines represents the solution to the inequality $5x - 3 \le 7x + 7$?

A.

B.

C.

D.

Use the following information to answer question 12.

Kristy received a speeding ticket for travelling above the posted limit.

MAXIMUM
100
km/h

12. The inequality that shows the speed, *s*, that Kristy was travelling at is

    A. $s \le 100$ km/h

    B. $s < 100$ km/h

    C. $s \ge 100$ km/h

    D. $s > 100$ km/h

Name:_____

Use the following information to answer question 29.

> Sandy has a budget of $100 to spend on back-to-school clothes. The shirts she wants to buy are $12 each, and the pants she wants to buy are $25 each. All prices include tax.

29. Which of the following inequalities could be used to determine the maximum number of shirts, n, Sandy can buy if she also buys 2 pairs of pants?

A. $12n - 2(25) \leq 100$
B. $12n + 2(25) \leq 100$
C. $2(25) - 12n \geq 100$
D. $2(25) + 12n \geq 100$

Numerical Response

8. At a picnic for 49 people, 4 families each brought an equal number of lawn chairs. If 5 more lawn chairs were still needed, then how many chairs did each family bring?

Answer: _____

(Record your answer in the numerical-response section on the answer sheet.)

Use the following information to answer question 20.

Chantal receives a $50 gift card to join the online music store shown below.
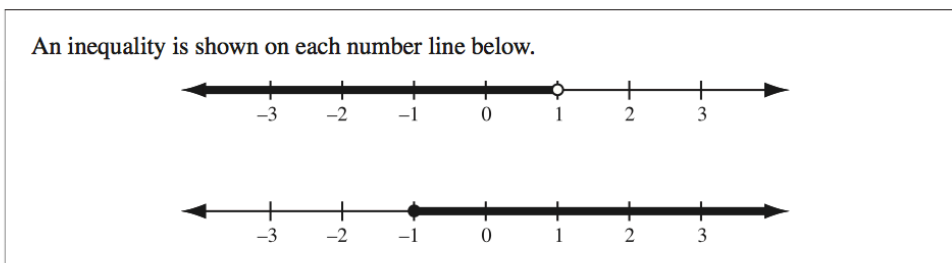

New Tunes
$5.00 sign-up fee
$0.99 per song

20. Which of the following inequalities can be used to determine the maximum number of songs that Chantal can purchase with her gift card?

A. $50 \geq 5 + 0.99x$
B. $50 > 5 + 0.99x$
C. $50 \leq 5 + 0.99x$
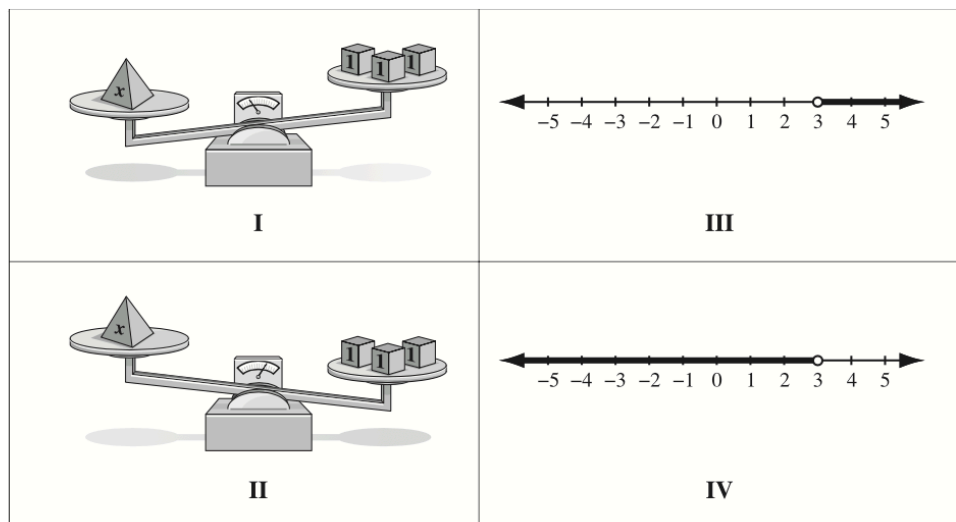D. $50 < 5 + 0.99x$

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Use the following information to answer question 5.

An inequality is shown on each number line below.

5. Which expression represents the values (*n*) that are part of both inequalities?

    A. $-1 \leq n \leq 1$

    B. $-1 \leq n < 1$

    C. $-1 < n \leq 1$

    D. $-1 < n < 1$

Use the following diagrams to answer question 24.

I

III

II

IV

24. The two diagrams shown above that **both** represent the inequality $x > 3$ are numbered

    A. I and III

    B. I and IV

    C. II and III

    D. II and IV

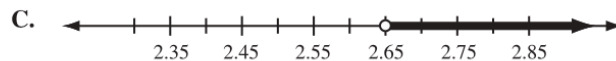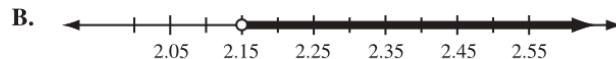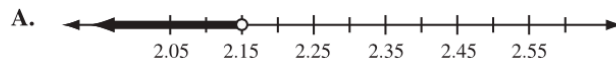# Pattern and Relations 4

Use the following information to answer question 2.

Aaron buys a cheeseburger for $6.50 and a container of milk for $0.80. Sam buys a tossed salad and a bowl of soup. The soup costs $2.00 more than the salad. Sam's meal is less expensive than Aaron's meal.

2. Which of the following number lines could represent the price of Sam's salad?

A.

```
 ◄━━━━━━━━○──┼──┼──┼──┼──┼──┼──►
      2.05   2.15   2.25   2.35   2.45   2.55
```

B.

```
 ◄──┼──┼──○━━━━━━━━━━━━━━━━►
      2.05   2.15   2.25   2.35   2.45   2.55
```

C.

```
 ◄──┼──┼──┼──┼──┼──○━━━━━━━━►
      2.35   2.45   2.55   2.65   2.75   2.85
```

D.

```
 ◄━━━━━━━━━━━━━━○──┼──┼──┼──►
      2.35   2.45   2.55   2.65   2.75   2.85
```

The cost of a team banquet is $200 for the room rental and $15 per person, n, for the meal. All taxes are included in these costs. The team has a maximum budget of $650 for the banquet.
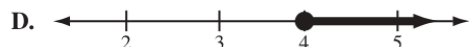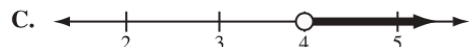
20. The inequality that can be used to determine how many people can attend is

A. $15n + 200 > 650$

B. $15n + 200 < 650$

C. $15n + 200 \geq 650$

D. $15n + 200 \leq 650$

31. Which number line shown below represents the solution to $4(2x - 1) > 4x + 8$?

A.

B.

C.

D.

Jennifer's goal is to save $1 200. Each week she saves 20% of her weekly income of $576.

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7. How many weeks will it take Jennifer to reach her goal?

A. 10
B. 11
C. 24
D. 29