1

Which of the following graphs represents the solution of the inequality below?

$$|x| \le 2$$

A.

-4 -3 -2 -1   0   1   2   3   4

B.

-4 -3 -2 -1   0   1   2   3   4

C.

-4 -3 -2 -1   0   1   2   3   4

D.

-4 -3 -2 -1   0   1   2   3   4
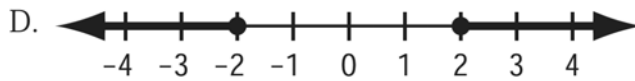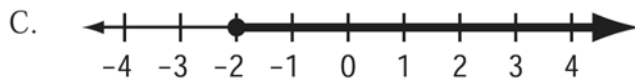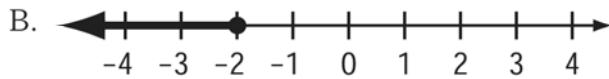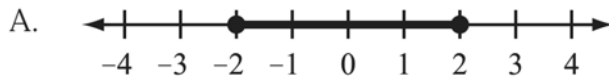
2 Which of the following inequalities is graphed on the number line below?

-1   0   1   2   3
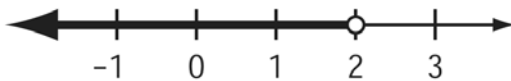
A. $x < 2$

B. $x \le 2$

C. $x > 2$

D. $x \ge 2$

3 The graph below is the solution of which of the following inequalities?

```
     +--+--+--○--+--+--+--○--+--+
  -20 -15 -10 -5  0  5  10 15  20
```
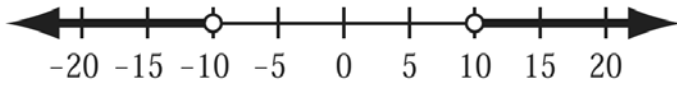
A. $|x| > 10$

B. $|x| < 10$

C. $x > 10$

D. $x < -10$

4 Joshua is designing a rectangular mirror.

- He let w = the width, in inches, of the mirror.

- The length of the mirror will be 6 inches more than the width.

- The perimeter of the mirror will be less than 96 inches and greater than 76 inches.

Which of the following inequalities shows the possible widths, in inches, of the mirror?

A. $13 < w < 18$
B. $16 < w < 21$
C. $19 < w < 24$
D. $35 < w < 45$

5 A technician earns \$75 per hour working on computers. She has monthly business expenses of \$800. Her profit is the difference between her monthly earnings and her monthly business expenses.

Which of the following inequalities can be used to find the number of hours, x, the technician will have to work on computers in a month to make a profit of more than \$2000?

A. $800 - 75x < 2000$

B. $75x - 800 < 2000$

C. $800 - 75x > 2000$

D. $75x - 800 > 2000$

Mark your answer here: 5. Ⓐ Ⓑ Ⓒ Ⓓ

6 What is the solution of the equation below?

$$2x - 6 = 8$$

Write your answer here:

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All test items have been released to the public by the Massachusetts Department of Elementary and Secondary Education.