A.A.24: Solving Inequalities: Solve linear inequalities in one variable

1 What is the solution of the inequality $-6x - 17 \geq 8x + 25$?
1) $x \geq 3$
2) $x \leq 3$
3) $x \geq -3$
4) $x \leq -3$

2 What is the solution of $4x - 30 \geq -3x + 12$?
1) $x \geq 6$
2) $x \leq 6$
3) $x \geq -6$
4) $x \leq -6$

3 What is the solution of $3(2m - 1) \leq 4m + 7$?
1) $m \leq 5$
2) $m \geq 5$
3) $m \leq 4$
4) $m \geq 4$

4 The inequality $\frac{1}{2}x + 3 < 2x - 6$ is equivalent to
1) $x < -\frac{5}{6}$
2) $x > -\frac{5}{6}$
3) $x < 6$
4) $x > 6$

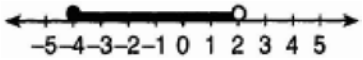
5 Solve the inequality $-5(x - 7) < 15$ algebraically for x.

6 Solve algebraically for x: $2(x - 4) \geq \frac{1}{2}(5 - 3x)$

7 Which inequality is shown on the accompanying graph?

1) $x < -1$
2) $x \leq -1$
3) $x > -1$
4) $x \geq -1$

8 Which inequality is represented in the graph below?



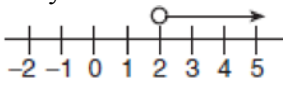
1) $-4 < x < 2$
2) $-4 \leq x < 2$
3) $-4 < x \leq 2$
4) $-4 \leq x \leq 2$

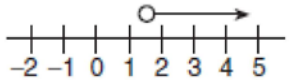
9 Which inequality is represented in the accompanying graph?

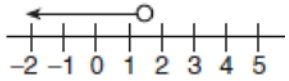
1) $-3 \leq x < 4$
2) $-3 \leq x \leq 4$
3) $-3 < x < 4$
4) $-3 < x \leq 4$

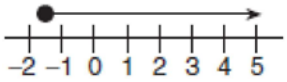
Name: _____

10 Which graph best represents the solution set for the inequality $x > \sqrt{2}$?

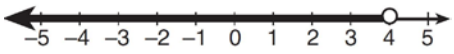
1) 

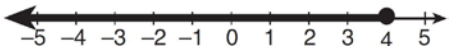
2) 

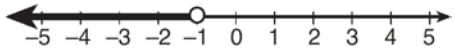
3) 

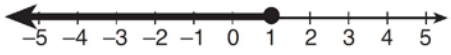
4) 

11 Which graph represents the solution set of $2x - 5 < 3$?

1) 

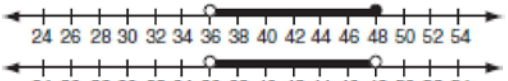
2) 

3) 

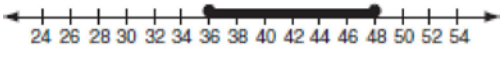
4) 

12 In order to be admitted for a certain ride at an amusement park, a child must be greater than or equal to 36 inches tall and less than 48 inches tall. Which graph represents these conditions?

1) 

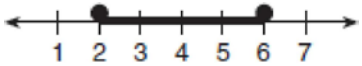
2) 

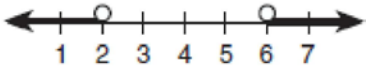
3) 

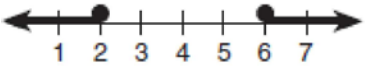
4) 

13 Which graph represents the solution set for $2x - 4 \leq 8$ and $x + 5 \geq 7$?

1) 

2) 

3) 

4) 

14 The manufacturer of Ron's car recommends that the tire pressure be at least 26 pounds per square inch and less than 35 pounds per square inch. On the accompanying number line, graph the inequality that represents the recommended tire pressure.

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Answer Section

1 ANS: 4

$-6x - 17 \geq 8x + 25$

$-42 \geq 14x$

$-3 \geq x$

REF: 081121ia

2 ANS: 1

$4x - 30 \geq -3x + 12$

$7x \geq 42$

$x \geq 6$

REF: 061406ia

3 ANS: 1

$3(2m - 1) \leq 4m + 7$

$6m - 3 \leq 4m + 7$

$2m \leq 10$

$m \leq 5$

REF: 081002ia

4 ANS: 4

$\frac{1}{2}x + 3 < 2x - 6$

$9 < \frac{3x}{2}$

$6 < x$

REF: 010425a

5 ANS:

$-5(x - 7) < 15$

$x - 7 > -3$

$x > 4$

REF: 061331ia

6 ANS:

$2(x-4) \geq \frac{1}{2}(5-3x)$

$4(x-4) \geq 5-3x$

$4x-16 \geq 5-3x$

$7x \geq 21$

$x \geq 3$

REF: 011234ia

7 ANS: 4

$10 \times 8 + \frac{1}{2}\pi \times 4^2 = 80 + 8\pi$

REF: 080815a

8 ANS: 2 REF: 060001a

9 ANS: 4 REF: 080411a

10 ANS: 2 REF: 060616a

11 ANS: 1

$2x-5<3$

$2x<8$

$x<4$

REF: 011418ia

12 ANS: 1 REF: 010610a

13 ANS: 2

$2x-4 \leq 8$

$2x \leq 12.$

$x \leq 6$

$x+5 \geq 7$

$x \geq 2$

REF: 010312a

14 ANS:

REF: 060532a