***Inequalities – Exam Review #4***

**Solve each inequality, showing all work. Then, match each solution to its corresponding graph.**

**\_\_\_\_\_ 1.** *x* + 11 > 16 **a.**

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**\_\_\_\_\_ 2.** *x –* 6 < 1 **b.**

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**\_\_\_\_\_ 3.** *x* + 2 ≤ –3 **c.**

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**\_\_\_\_\_ 4.** *x* + 3 ≥ 1 **d.**

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**\_\_\_\_\_ 5.** *x –* 1 < –7 **e.**

**Solve each inequality for the variable. Show all work.**

**6.** 20*b* ≥ –120 **7.** –8*r* < 16

**8.** $\frac{α}{9}$ ≥ –15 **9.** $-\frac{p}{7}$ > 9

**10.** Which of the following is the solution to the given inequality? **–2*b* + 4 > –6**

 **a.** b > 1

 **b.** b < -1

 **c.** b < 5

 **d.** b > 5

**11.** Which of the following is the solution to the given inequality? **2(*q* – 3) + 6 ≤ –10**

 **a.** q ≤ -5

 **b.** q ≤ -2

 **c.** q ≤ -6.5

 **d.** q ≤ -8

**12. MULTIPLE CHOICE** Which of the following compound inequalities accurately describes the given number line?

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 **a.** x < -3 or x ≥ 3 **c.** -3 < x ≤ 3 **e.** both b and c

 **b.** x > -3 and x ≤ 3 **d.** both a and c **f.** all of the above

**13.** Graph the following compound inequality. ***y* < –1 or *y* ≥ 2**



**Solve each inequality including absolute value, then plot your solutions on the given number line.**

**14.**  $\left|c - 3\right|$ < 1  **15.**  $\left|n + 2\right|$ ≥ 1



**Match each two-variable inequality with its corresponding graph. Then, give at least one reason for how you know.**

** \_\_\_\_\_ 16.** *y* < 2*x* +2 **a. b.**

*Because…*

 **\_\_\_\_\_ 17.** *y* ≤ –3*x*

*Because…*

 **\_\_\_\_\_ 18.** *y* ≥ $\frac{1}{2}x+2$ **c. d.**

 *Because…*

 **\_\_\_\_\_ 19.** *y* > -x + 1

 *Because…*