|  |  |  |  |
| --- | --- | --- | --- |
| Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |  | http://www.edhelperclipart.com/clipart/edhelp1.gif | Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |

**Inequalities**

**Use substitution to determine whether the value given for the variable makes the inequality true or false.**

**SHOW YOUR WORK!! (NO WORK SHOWN = NO CREDIT!)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 15 |   -   | m |   http://www.edhelperclipart.com/clipart/mathge.jpg   | 4 |

*m* = 11 |

 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2.   |

|  |  |  |  |
| --- | --- | --- | --- |
| 15 |   http://www.edhelperclipart.com/clipart/mathle.jpg   |

|  |
| --- |
| ahttp://www.edhelperclipart.com/clipart/fractdiv2.gif10 |

 |

*a* = 153 |

 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3.   |

|  |  |  |  |
| --- | --- | --- | --- |
| 8 |   >   |

|  |
| --- |
| 64http://www.edhelperclipart.com/clipart/fractdiv2.gifr |

 |

*r* = 16 |

 |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4.   |

|  |  |  |
| --- | --- | --- |
| 76 |   http://www.edhelperclipart.com/clipart/mathge.jpg   | 19h |

*h* = 4 |

 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 22 |   <   | 19 |   +   | q |

*q* = 5 |

 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 6.   |

|  |  |  |
| --- | --- | --- |
| 124 |   http://www.edhelperclipart.com/clipart/mathle.jpg   | 15z |

*z* = 5 |

 |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 7.   |

|  |  |  |
| --- | --- | --- |
| 2v |   >   | 24 |

*v* = 12 |

 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 8.   |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |
| --- |
| nhttp://www.edhelperclipart.com/clipart/fractdiv1.gif5 |

 |   <   | 16 |

*n* = 57 |

 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 9.   |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |
| --- |
| 72http://www.edhelperclipart.com/clipart/fractdiv2.gife |

 |   <   | 12 |

*e* = 17 |

 |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 10.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 29 |   -   | u |   http://www.edhelperclipart.com/clipart/mathge.jpg   | 9 |

*u* = 20 |

 |

|  |  |
| --- | --- |
| 11.   | a + 16 > 30a = 14 |

 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 12.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 38 |   >   | 32 |   +   | z |

*z* = 13 |

 |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 13.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 16 |   -   | j |   <   | 3 |

*j* = 13 |

 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 14.   |

|  |  |  |
| --- | --- | --- |
| 21 |   http://www.edhelperclipart.com/clipart/mathge.jpg   | 7r |

*r* = 3 |

 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 15.   |

|  |  |  |
| --- | --- | --- |
| 10h |   http://www.edhelperclipart.com/clipart/mathle.jpg   | 62 |

*h* = 11 |

 |
|

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 16.   |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |
| --- |
| 30http://www.edhelperclipart.com/clipart/fractdiv2.gifk |

 |   http://www.edhelperclipart.com/clipart/mathle.jpg   | 6 |

*k* = 3 |

 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 17.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 28 |   +   | d |   >   | 37 |

*d* = 6 |

 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 18.   |

|  |  |  |  |
| --- | --- | --- | --- |
| 17 |   http://www.edhelperclipart.com/clipart/mathge.jpg   |

|  |
| --- |
| whttp://www.edhelperclipart.com/clipart/fractdiv1.gif4 |

 |

*w* = 78 |

 |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 19.   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 15 |   http://www.edhelperclipart.com/clipart/mathle.jpg   | 22 |   -   | g |

*g* = 19 |

 |

|  |  |
| --- | --- |
| 20.   | 18r < 198r = 12 |

 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 21.   |

|  |  |  |  |
| --- | --- | --- | --- |
|

|  |
| --- |
| ehttp://www.edhelperclipart.com/clipart/fractdiv1.gif7 |

 |   <   | 10 |

*e* = 22 |

 |

**Write the inequality represented by each graph below:**

 Figure 1 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-1 0 1 2 3 4 5

6 7 8 9 10 11

25 26 27 28 29 30

0 10 20 30 40 50

 Figure 2 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Figure 3 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Figure 4 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Write the inequality AND graph for each problem below:**

1) Mrs. Bothers’ kids will go trick-or-treating at more than 100 houses on Halloween.

2) Mrs. Bothers will eat at least 20 candies from her kids’ stash after they go to bed. ☺

3) The temperature is supposed to be below 45⁰ on Wednesday night.

4) Last year, no more than 30 trick-or-treaters came to Mrs. Bothers’ house.



5) There are more than 200 candies in the bag I bought today.