|  |  |  |  |
| --- | --- | --- | --- |
| 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 | |  | | --- | | a http://www.edhelperclipart.com/clipart/fractdiv2.gif 10 | |   *a* = 153 | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 3. | |  |  |  |  | | --- | --- | --- | --- | | 8 | > | |  | | --- | | 64 http://www.edhelperclipart.com/clipart/fractdiv2.gif r | |   *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. | |  |  |  |  | | --- | --- | --- | --- | | |  | | --- | | n http://www.edhelperclipart.com/clipart/fractdiv1.gif 5 | | < | 16 |   *n* = 57 | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 9. | |  |  |  |  | | --- | --- | --- | --- | | |  | | --- | | 72 http://www.edhelperclipart.com/clipart/fractdiv2.gif e | | < | 12 |   *e* = 17 | |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | 10. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | 29 | - | u | http://www.edhelperclipart.com/clipart/mathge.jpg | 9 |   *u* = 20 | | |  |  | | --- | --- | | 11. | a + 16 > 30  a = 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. | |  |  |  |  | | --- | --- | --- | --- | | |  | | --- | | 30 http://www.edhelperclipart.com/clipart/fractdiv2.gif k | | 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 | |  | | --- | | w http://www.edhelperclipart.com/clipart/fractdiv1.gif 4 | |   *w* = 78 | |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | 19. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | 15 | http://www.edhelperclipart.com/clipart/mathle.jpg | 22 | - | g |   *g* = 19 | | |  |  | | --- | --- | | 20. | 18r < 198  r = 12 | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 21. | |  |  |  |  | | --- | --- | --- | --- | | |  | | --- | | e http://www.edhelperclipart.com/clipart/fractdiv1.gif 7 | | < | 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 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

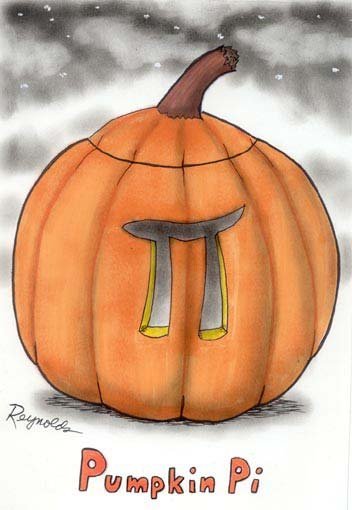
**Write the inequality AND graph for each problem below:**

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.