Linear inequalities and budgets worksheet – Grade 10

Grade 10 · Mixed level · 20 questions · **Version X8194**

Name: _____ Date: _____ Score: ___ / 20

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1. What is the largest integer x with $2x + 17 \leq 5$?

   Answer: _____

2. Work out the largest integer x with $4x + 4 \leq 40$.

   Answer: _____

3. What is the smallest integer x with $6x - 19 \geq -31$?

   Answer: _____

4. Find the smallest integer x with $8x - 1 \geq 15$.

   Answer: _____

5. Work out the smallest integer x with $4x - 16 \geq -8$.

   Answer: _____

6. Tickets cost 12 dollars and Liam has 113 dollars. What is the most tickets Liam can buy?

   Answer: _____

7. Find the largest integer x with $3x + 6 \leq 9$.

   Answer: _____

8. A dance studio charges a 30 dollar fee plus 5 dollars a visit. Leah can spend at most 100 dollars. What is the greatest number of visits?

   Answer: _____

9. Work out the largest integer x with $-7x + 12 \geq 5$.

   Answer: _____

10. What is the largest integer x with $-4x + 15 \geq -17$?

    Answer: _____

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11. Find the largest integer x with $-9x + 3 \geq -33$.

    Answer: _____

12. A gym charges a 20 dollar fee plus 2 dollars a visit. Dev can spend at most 48 dollars. What is the greatest number of visits?

    Answer: _____

13. A climbing club charges a 10 dollar fee plus 3 dollars a visit. Maya can spend at most 52 dollars. What is the greatest number of visits?

    Answer: _____

14. How many integers satisfy $0 < x \leq 8$?

    Answer: _____

15. Plan A is 53 dollars a month with no extras. Plan B is 26 dollars plus 3 dollars per gigabyte. Above how many gigabytes is Plan A cheaper?

    Answer: _____

16. Which inequality describes "at least 10 students and at most 30"?

    A. 10 ≤ x ≤ 30 **B.** 10 < x < 30 **C.** x ≤ 10 **D.** x ≥ 30

17. Adult tickets are 20 dollars and child tickets 10 dollars. A group has 160 dollars and 6 adults. What is the most children who can go?

    Answer: _____

18. To shade $2x + 3y \leq 12$, you test (0, 0). What does that show?

    A. The side with (0, 0) is shaded **B.** The other side is shaded **C.** The line is dashed **D.** No side is shaded

19. Plan A is 57 dollars a month with no extras. Plan B is 30 dollars plus 3 dollars per gigabyte. Above how many gigabytes is Plan A cheaper?

    Answer: _____

20. Adult tickets are 15 dollars and child tickets 5 dollars. A group has 305 dollars and 17 adults. What is the most children who can go?

    Answer: _____

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Answer key · Version X8194

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1. **-6**
2. **9**
3. **-2**
4. **2**
5. **2**
6. **9**
7. **1**
8. **14**
9. **1**
10. **8**
11. **4**
12. **14**
13. **14**
14. **8**
15. **9**
16. **A (10 ≤ x ≤ 30)**
17. **4**
18. **A (The side with (0, 0) is shaded)**
19. **9**
20. **10**

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