

Inequalities worksheet

Translate each verbal phrases into an algebraic expression

1. Twice the sum of x and 3 is less than 5 _____
2. Sum of 4 times x and 2 is at most 10 _____
3. The difference between two times x and one is at least 11 _____
4. Twice the sum of 13 and x is not greater than 15. _____
5. Thrice the sum of x and 12 is greater than or equal to 8. _____

Solve

1. $5 - 6x > -19$

2. $4(x - 2) \geq 20$

3. $\frac{5x-1}{4} > 3x$

4. $2(x + 1) - 3(x - 2) < x + 6$

$$5. \frac{2}{3} \left[x - \left(1 - \frac{x-2}{3} \right) \right] + 1 \leq x$$

$$6. \frac{3(x-2)}{5} \leq \frac{5(2-x)}{3}$$

$$7. 81^{5x-11} \geq 27^{3x+15}$$

$$8. 9^{5x-11} \geq \left(\frac{1}{3} \right)^{3x+15}$$

9. Frozen chickens will be sold by a major chain of supermarkets only if their weight is at least 2 kg and not more than 3.4 kg. What should be the range of weight.
10. Jennie sold 3 cookbooks. To earn a prize, Jennie must sell at least 12 cookbooks.
11. Peter has 2 baseball hats. Peter and his brothers have fewer than 12 baseball hats.

Answers

1. $2(x+3) < 5$
2. $4x+2 \leq 10$
3. $2x-1 \geq 11$
4. $2(13+x) \leq 15$
5. $3(x+12) \geq 8$

Solve

1. $X < 4$
2. $X > 7$
3. $X < -1/7$
4. $X > 1$
5. $x \leq -2$
6. $x \leq 2$
7. $x \geq 8$
8. $x \geq 7/13$
9. $2\text{kg} \leq w \leq 3\text{kg}$
10. $C \geq 12$
11. $B+2 < 12$