



HOMEWORK

Homework Problems

Circle the homework problems assigned to you by the computer, then complete them below.



Explain

Solving Inequalities

1. Solve for x : $x - 7 < 2$
2. Solve for x : $15 < 5x$
3. Solve for x : $-3 \leq x + 1 \leq 5$
4. Solve for x : $18 < 2x + 4$
5. Solve for x : $6x < -18$
6. Solve for x : $-5 \leq 2x - 3 < -2$
7. Solve for x : $22 < 6 - 4x$
8. Solve for x : $4 - x < x + 2$
9. Mohammad took \$40 out of his savings account to go shopping for a birthday present. He needs \$3.00 for parking and \$12.50 for gas. Write an inequality to represent the amount he can spend on the present and still have enough money to pay for parking and gas.
10. Donna's new car gets 22 miles per gallon (mpg) in the city and 34 mpg on the highway. Write a compound inequality which represents the number of miles she can drive on 14 gallons of gas.
11. Solve for x : $\frac{3x+1}{2} - 5 < -1$
12. Solve for x : $\frac{8}{5} < 2 - x < 6$



Explore

13. Graph the solutions of each inequality: $x - 2 \leq 5$ and $x - 2 < 5$. Explain how the solutions of the inequalities differ.
14. Graph the solutions of the compound inequality $-2 < 3x + 7 \leq 10$.
15. Graph the solutions of the compound inequality $1 < -\frac{2}{5}x + 3 < 5$.
16. Graph the solution of each inequality: $4 - 3x \leq -5$ and $4 - 3x < -5$. Explain how the solutions of the inequalities differ.
17. Graph the solutions of the compound inequality $-14 < 2 - 4x < 0$.
18. Graph the solutions of the compound inequality $\frac{1}{2} \geq \frac{2}{3}x - 2 > -\frac{4}{7}$.



APPLY

Practice Problems

Here are some additional practice problems for you to try.

Solving Inequalities

1. Solve for x : $x + 6 \leq 10$
2. Solve for y : $y + 7 \geq 9$
3. Solve for a : $a - 3 > 9$
4. Solve for w : $w - 6 \leq 3$
5. Solve for b : $3b < 18$
6. Solve for a : $4a \leq 36$
7. Solve for c : $5c \geq -25$
8. Solve for m : $-2m \leq 24$
9. Solve for d : $-4d > 5$
10. Solve for k : $-3k < -9$
11. Solve for x : $3x + 7 < 13$
12. Solve for y : $4y + 7 \geq 15$
13. Solve for z : $8z + 15 > 39$
14. Solve for m : $6m - 8 > -32$
15. Solve for a : $5a - 7 < -8$
16. Solve for h : $7h - 12 \leq 37$
17. Solve for x : $9 - x < 1$
18. Solve for x : $7 - x > 2$
19. Solve for p : $18 - p \geq 20$
20. Solve for y : $6 - 3y \geq 9$
21. Solve for z : $5 - 4z < 37$
22. Solve for y : $9 - 6y \leq -45$
23. Solve for y : $-6 \leq y + 5 < 13$
24. Solve for y : $-4 < y - 2 \leq 10$
25. Solve for z : $-15 < z - 14 < 25$
26. Solve for z : $16 \leq 7 - 2z < 23$
27. Solve for x : $15 \leq 8 - 3x \leq 20$
28. Solve for k : $-15 < 8 - 4k \leq -8$



Practice Test

Take this practice test to be sure that you are prepared for the final quiz in Evaluate.

1. Solve for x : $x - 3 < 4$
2. Solve for z : $3z - 7 \leq 5$
3. Solve for x : $7x + 2 < 6x + 5$
4. Solve for y : $9y + 11 > 8y - 3$
5. Solve for x : $9 - 4x \geq -19$
6. Solve for x : $\frac{1}{2}x + 4 \geq x$
7. Solve for z : $10 < 2z + 10 < 20$
8. At her job, Sonal can choose to work a different number of hours each day, but she must average at least 8 hours per day. This week she worked 10 hours on Monday, 6 hours on Tuesday, 7 hours on Wednesday, and 8 hours on Thursday. How many hours must she work on Friday to maintain or exceed her 8 hour average?

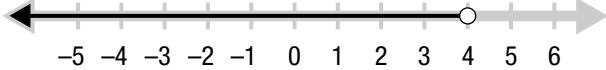


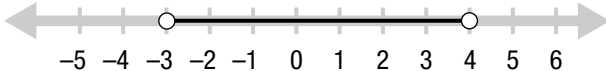
TOPIC 2 CUMULATIVE ACTIVITIES

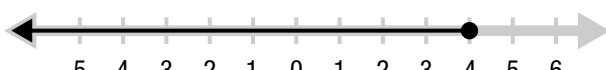
CUMULATIVE REVIEW PROBLEMS


These problems combine all of the material you have covered so far in this course. You may want to test your understanding of this material before you move on to the next topic, or you may wish to do these problems to review for a test.


- Simplify the expression $2x^2y - 5y + 6x^2y + 4x - 3y$.
- Solve for y : $2y + 5 = 4\left(\frac{1}{2}y + 3\right)$
- Solve for x : $-4 < 4x + 3 < 7$
- Write using exponents: $3 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 17 \cdot 17 \cdot 17$
- Suppose you have two numbers and the second number is 2 less than 3 times the first. If the sum of the two numbers is 34, what are the numbers?
- Solve for x : $3(x + 2) = 12$
- Solve for y : $-1 \leq 6y - 4 < 12$
- Simplify: $4 \cdot 3^2[7 - (3 + 4)] - 6$
- Simplify the expression $2(x^2y^2 - 3x) + 4xy - 3(7x + x^2y^2) - 2$.
- Circle the graph that represents the inequality $x - 7 < -3$.









- Find: $\frac{5}{9} \div \frac{10}{3}$
- Simplify the expression $7xy^3 - 4xy^2 - 5x + xy^3 + 3x - 2xy^2$.
- Solve for y : $5y - 2 \geq 23$, then graph its solution on the number line below.

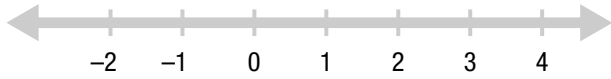

- One number is 8 less than 5 times another. If the sum of the two numbers is -2 , what are the numbers?
- Solve for z : $z + 5 = 8$
- Reduce $\frac{54}{36}$ to lowest terms.
- Evaluate the expression $xy^2 + 2xy - 3 + 5y$ when $x = 2$ and $y = -3$.
- Find the GCF of 76 and 57.
- Bjorn is 3 years older than Ivar was 5 years ago. If the sum of their ages now is 66, how old is each person?
- Solve for y : $3 < 7 - 2y \leq 6$, then graph its solution on the number line below.


- The formula to find the area of a circle is $A = \pi r^2$, where A is the area and r is the radius. Solve the formula $A = \pi r^2$ for r .
- Given the expression $4x^3y - 3 + 2y^2 - 7x + 12$,
 - what are the terms?
 - what are the variables?
 - what are the coefficients?
 - what are the constants?
- The length of one side of a square is decreased by 2 meters and the length of an adjacent side is increased by 1 meter. In the resulting rectangle, the length is twice the width. How long was a side of the original square?

24. Evaluate the expression $5x - 3x^2y + 4 - 2y$ when $x = -3$ and $y = 1$.

25. Solve for x : $2x + 1 = -5 + 2(x + 3)$

26. Solve for z : $-8 \leq 3z + 10 \leq 16$, then graph its solution on the number line below.



27. Find: $\frac{2}{3} + \frac{3}{4}$

28. Find the LCM of 16 and 42.

29. Solve for y : $\frac{1}{3}(3 - y) = \frac{5}{6}(3 + y)$

30. Solve for x : $\frac{1}{4}x + 5 = \frac{1}{2}(x - 2)$