Evaluate the expressions

1. $2x3^2 \div 3$

2. $2(3 + 4 \cdot 7)$

3. $7 - \frac{x}{y} \cdot 2$ when $x = 2$ and $y = -3$

4. $12x^{-2}y^3 + 3(x + y)$ when $x = 2$ and $y = -3$

5. What is 38% of 6400?

6. If a $54 shirt is on sale at 20% off, what price do you pay? (Ignoring sales tax)

7. Put the values in **increasing** order: 0.0244, -0.16, 0.1659, 7.2, -0.016

8. Put the values in **decreasing** order: $\frac{3}{5}, \frac{7}{13}, \frac{1}{3}, \frac{5}{4}, \frac{1}{6}$

Solve

9. $\frac{2}{x-3} = \frac{5}{x+1}$

10. $\frac{x}{3} - 7 = -22$

11. $-3x - 5 = -12x$

12. $2(3-x) = 22 + 2x$

13. $\frac{1}{2}(x-4) + 8 = 3(x + 1)$

14. You are making a model of a bridge. The ratio of the model to the actual size is 1:500. The model is approximately 21.4 inches long. Estimate the **actual length** of the bridge.

Solve the system of equations

15. $6x - 12y = 24$

$-x - 6y = 4$

16. $7x + 2y = -19$

$-x + 2y = 21$

Tell whether each statement is true or false. If the statement is false, give a counterexample

17. The absolute value of a positive number is always negative.

18. The absolute value of a negative number is always positive.

Factor

20. $x^2 + 3x - 18$

21. $9x^2 - 30x + 25$

22. $12x^2 - 9x + 15$

23. $16x^2 - 9$

24. $300 - 12x^2$

25. $8x^2 - 14x - 15$

Expand

26. $6x(2x - 7)$

27. $(x-5)^2$

28. $(3x + 7)(2x - 5)$

Solve <u>and</u> sketch the graph of the inequality

29. $3x - 2 \geq 7x - 10$

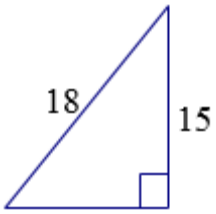
30. $-15m > 45$

31. In which quadrant is the point (-4, 7)?

32. Solve for C: $F = \frac{9}{5}C + 32$

Solve for the missing <u>sides</u> of the triangles

33.



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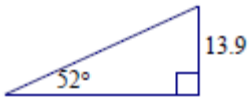


Find the GCF (greatest common factor) and the least common multiple for each pair of numbers.

35. 10, 45

36. 35, 42

37. There are 20 girls in a class of 28 students. What is the ratio of boys to girls, in simplest form?

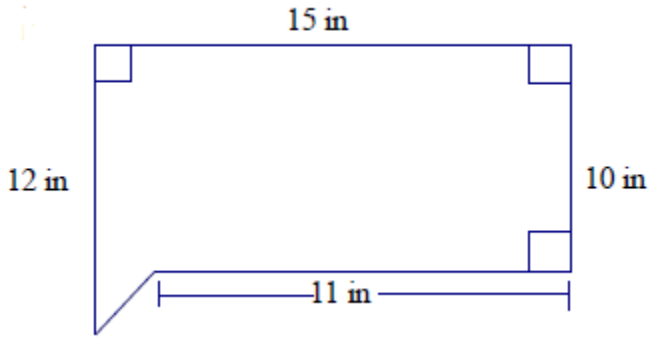
Fill in the appropriate inequality symbol to make each statement true.

38. $(a > b, c > 0) \Rightarrow ac$ _____ bc

39. $(a > b, c < 0) \Rightarrow ac$ _____ bc

Determine the perimeter <u>and</u> area of the figures.

40.



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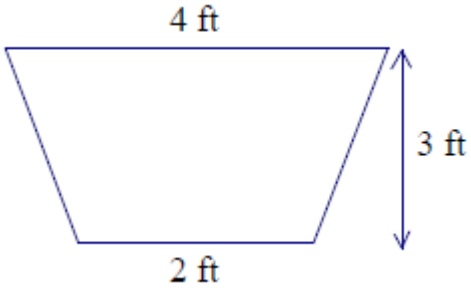

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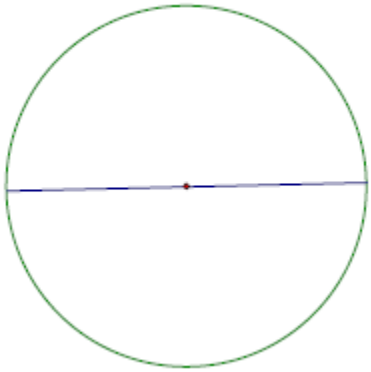

d = 5

43.