

Test 1F Review

1. Evaluate the given expression if $m = 71$.

$$|-3m|$$

Solve the given inequality. Describe the solution set using the set-builder or interval notation. Then, graph the solution set on a number line.

2. $m + 4 \geq 7$

3. $m + 4 \geq 3$

Indicate the answer choice that best completes the statement or answers the question.

___ 4. Evaluate the given expression if $k = -35$.

$$5|k + 10| - |4k|$$

- a. 265 b. 15 c. -10 d. -15

5. Evaluate the given expression if $k = -83$.

$$5|k + 10| - |4k|$$

6. Evaluate the given expression if $w = 24$, $x = 40$, $y = 49$, and $z = 2$. Round to the nearest hundredth if necessary.

$$w + \frac{1}{x} + \frac{1}{y} + \frac{1}{z}$$

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7. Evaluate the given expression if $x = 25$, $y = 10$, $w = 25$, and $z = 7$.

$$(x - y)^2 + 10wz$$

Simplify the given expression.

8. $8(0.6x + 0.3y) + 13(0.2x - 0.7y)$

Solve the given inequality. Graph the solution set on a number line and state your answer in set-builder notation.

9. $4m - 2 < 8$ or $6m + 2 \geq 8$

Solve the given equation. Check your solution.

10. $|m - 9| = 25$

11. $3|2s + 5| = 12$

12. $9|2s + 5| = 72$

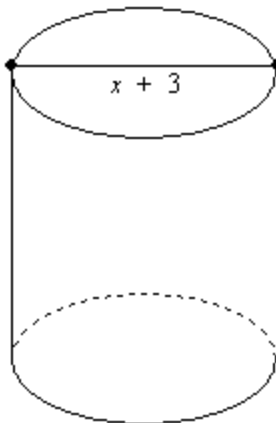
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Simplify the given expression.

13. $10(0.5x + 0.4y) + 12(0.6x - 0.9y)$

14. $11(0.3x + 0.4y) + 21(0.5x - 0.9y)$

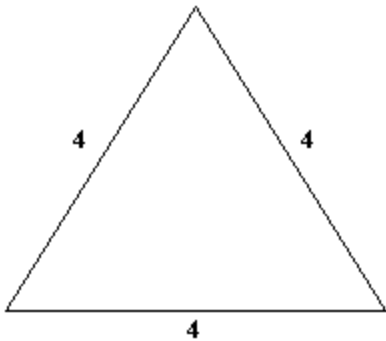
15. The formula to calculate the volume of a cylinder is $V = \pi r^2 h$. Write an expression to represent the volume of the cylinder.



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16. The formulas to find the area of an equilateral triangle are

$$A = \frac{1}{2} \times \text{base} \times \text{altitude}, \text{ and } A = \frac{\sqrt{3}}{4} (\text{side})^2.$$



Using these formulas, find the altitude of the given triangle.

Solve the given inequality. Describe the solution set using the set-builder or interval notation. Then, graph the solution set on a number line.

17. $p \leq \frac{p+38}{10}$

18. $p \leq \frac{p+77}{10}$

19. $\frac{1-p}{2} \leq 1$

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Mrs. Robinson, an insurance agent, earns a salary of \$4800 per year plus a 3% commission on her sales. The average price of a policy she sells is \$6100.

20. Write an inequality to find how many policies Mrs. Robinson must sell to make an annual income of at least \$8,000.

Mrs. Lobo earns a salary of \$50,000 per year plus a 4% commission on her sales. The average price of a share she sells is \$50.

21. Write an inequality to describe about how many shares Mrs. Lobo must sell to make an annual income of at least \$70,000.

Solve the given inequality. Graph the solution set on a number line.

22. $4m - 2 < 5$ or $6m + 2 \geq 6$

23. $p + 6 < 3$ or $p + 1 < 1$

Solve the given inequality. Describe the solution set using the set-builder or interval notation. Then, graph the solution set on a number line.

24. $4(10m + 6) \leq 12$

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Solve the given inequality. Graph the solution set on a number line.

25. $|p - 1| < 8$

26. $|p - 5| < 6$

27. $p + 1 > -3$ and $p + 1 < 4$

28. $p + 6 > -3$ and $p + 1 < 7$

Solve the given equation. Check your solution.

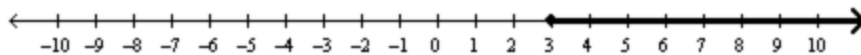
29. $|m - 10| = 20$

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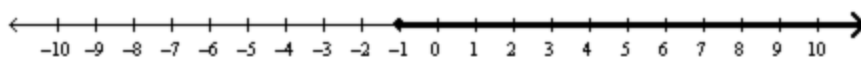
Answer Key

1. 213

2. The solution set is $\{m \mid m \geq 3\}$.



3. The solution set is $\{m \mid m \geq -1\}$.



4. d

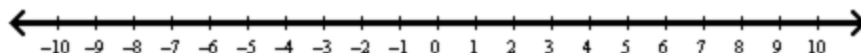
5. 33

6. 24.55

7. 1975

8. $7.4x - 6.7y$

9. $\{m \mid m \in \mathbb{R}\}$



10. $\{34, -16\}$

11. $\{-0.5, -4.5\}$

12. $\{1.5, -6.5\}$

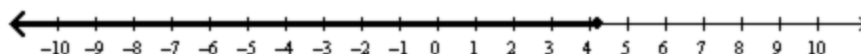
13. $12.2x - 6.8y$

14. $13.8x - 14.5y$

15. $\pi \left(\frac{x+3}{2} \right)^2$

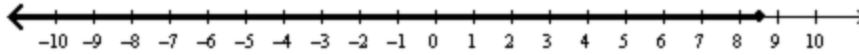
16. $4\sqrt{3}$

17. The solution set is $\left[-\infty, \frac{38}{9} \right]$.

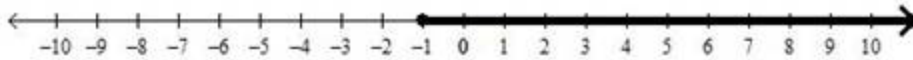


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18. The solution set is $\left(-\infty, \frac{77}{9}\right]$.



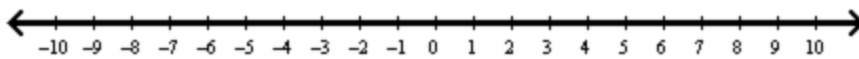
19. The solution set is $[-1, \infty)$.



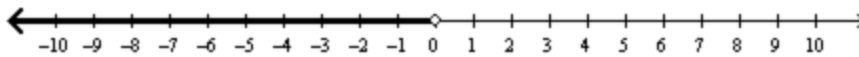
20. $4800 + 183x \geq 8000$

21. $50,000 + 2x \geq 70,000$

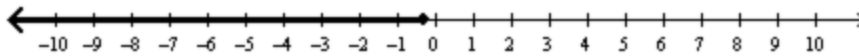
22. $\{m \mid m \in \mathbb{R}\}$



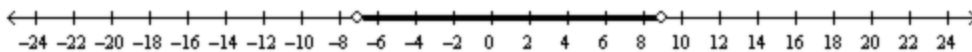
23. $\{p \mid p < 0\}$



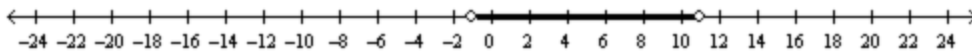
24. The solution set is $\{m \mid m \leq -0.3\}$.



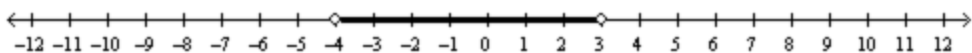
25. The solution set is $\{p \mid -7 < p < 9\}$.



26. The solution set is $\{p \mid -1 < p < 11\}$.



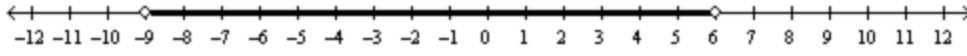
27. $\{p \mid -4 < p < 3\}$



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28. $\{p \mid -9 < p < 6\}$



29. $\{30, -10\}$