1) Combine like terms: $10x - (-6x) - 12 - (-9x) + 6$

A) $-6 + 25x$
B) $4x + 15x$
C) $-6 - 25x$
D) $-6 - 25$

Tell whether the angle is acute, right, obtuse, or straight.

2) $\angle ADB$

Classify the triangle as equilateral, isosceles, or scalene. Then classify it as right, obtuse, or acute.

3)

Classify the polygon by name.

4)

Find the sum of the angle measures of the specified polygon.

5) An octagon.
Find the perimeter of the polygon.
6)

Solve the problem.
7) A yard in the shape of a square measures 18 ft on each side. A triangular area with a height of 4 ft and a base of 9 ft is dug up for a flower bed. How much yard area is left over?

Find the area of the shaded region.
8)

Find the area.
9)
Solve the problem.

11) Find the total area of the roof of the garage.

Find the perimeter. Use 3.14 for π.

12)

Find the area of the figure. Use 3.14 for π.

13)

Find the volume.

14)
Find the volume of the circular cylinder. Use $3.14$ or $\frac{22}{7}$ for $\pi$ as indicated.

15) Use $3.14$ for $\pi$.

Find the volume of the sphere. Use $3.14$ or $\frac{22}{7}$ for $\pi$ as indicated.

16) Find the volume of the sphere with a radius of 2 m. Round your answer to the nearest thousandth. Use $3.14$ for $\pi$.

Find the volume of the circular cone. Round to the nearest whole number if necessary.

17) Use $\frac{22}{7}$ for $\pi$.

Use the properties of parallel lines to solve the problem.

18) If $m \parallel n$ and $\angle 6 = 113^\circ$, what are the measures of the other angles?
Assume that the given triangles are similar. Provide the missing length.

19) 

\begin{align*}
50 & \quad x \\
48 & \\
7 & \\
25 & \\
\end{align*}

Solve. Clear fractions or decimals first.

20) \( \frac{2}{5}x - \frac{1}{3}x = 5 \)

Solve and check the linear equation.

21) \( 2x - 4 + 5(x + 1) = -2x - 3 \)

A) \([-6]\) \quad B) \([-\frac{4}{3}]\) \quad C) \([-2]\) \quad D) \([-\frac{4}{9}]\)

22) The sum of twice a number and 5 less than the number is the same as the difference between \(-17\) and the number. What is the number?

A) \(-3\) \quad B) \(-2\) \quad C) \(-4\) \quad D) \(-6\)

Solve the problem.

23) The sum of three consecutive integers is 528. Find the integers.

24) If the first and third of three consecutive odd integers are added, the result is 87 less than five times the second integer. Find the third integer.

25) Find the measure of each angle in the triangle.

\begin{align*}
(6n + 37)^\circ \\
(4n - 19)^\circ \\
(n + 8)^\circ \\
\end{align*}

Solve.

26) \( F = \frac{9}{5}C + 32 \) for \( C \)

27) Jim drove 168 mi in 4 hr. If he can keep the same pace, how long will it take him to drive 504 mi?

Divide and simplify.

28) \( \frac{z-7}{z-5} \)
Solve using the addition principle. Graph and write set-builder notation for the answer.

29) \(9t + 2 \geq 8t + 3\)

A) \(\{t \mid t < 9\}\)

B) \(\{t \mid t \leq 1\}\)

C) \(\{t \mid t \geq 1\}\)

D) \(\{t \mid t > 9\}\)

30) Solve using the multiplication principle. Then graph \(\frac{t}{-6} < 3\)

A) \(t > -18\)

B) \(t \leq -18\)

C) \(t < -18\)

D) \(t \geq -18\)

31) Simplify the expression. \(\left(\frac{3x^4}{7y^3z^6}\right)^2\)

A) \(\frac{9x^8}{49y^6z^{12}}\)

B) \(\frac{9x^6}{49y^6z^8}\)

C) \(\frac{9x^6}{49y^6z^{12}}\)

D) \(\frac{9x^8}{49y^6z^6}\)

Convert to decimal notation.

32) \(6.398 \times 10^5\)

Evaluate the polynomial.

33) \(-2x^2 - 2x - 4\) for \(x = -3\)

Identify the polynomial as a monomial, binomial, trinomial, or none of these. Give its degree.

34) \(-18y^4 + 9y^3 - 7\)

Subtract.

35) \((9x^5 + 20x^4 + 5) - (4x^4 + 6x^5 - 10)\)
Solve the problem.

36) Find a polynomial for the sum of the shaded areas of the figure. \( A = 6, B = 4 \)

37) Apply the product rule for exponents, if possible.

\((-3x^5y)(-4x^9y^2)\)

Multiply.

38) \((2x - 9)(2x + 9)\)

39) \((6p - 1)(36p^2 + 6p + 1)\)

40) \((4x - 2)(4x - 2)\)

41) \((9m + 10)^2\)

Find the degree of the polynomial.

42) \(x^6yz - x^8y^2 - 3x^5y^2z^3\)

Divide.

43) \(-18x^4 - 24x^3 - 18x^2\)

\(-6x^3\)

Factor.

44) \(2m(9 - m) + 7n(9 - m)\)

45) One of the factors of \( x^2 - 5x - 36 \) is:
   A) \( x + 4 \)  \hspace{1cm}  B) Prime  \hspace{1cm}  C) \( x + 9 \)  \hspace{1cm}  D) \( x + 1 \)

46) One of the factors of \( 16x^2 + 24x + 9 \) is:
   A) \( 4x + 3 \) \hspace{1cm}  B) \( 3x + 4 \) \hspace{1cm}  C) Prime \hspace{1cm}  D) \( x + 3 \)

Factor completely.

47) \(6x^2 - 6x - 36\)
Determine whether the following is a difference of squares.
48) \(x^2 + 4\)

Factor completely.
49) \(49x^2 - 36\)

50) \(10a^3 + 15a^2 b - 4ab^2 - 6b^3\)

51) \(x^2 - x - 42\)

Solve the problem.
52) The length of a rectangular frame is 3 cm more than the width. The area inside the frame is 180 square cm. Find the width of the frame.

Multiply and, if possible, simplify.
53) \(\frac{k^2 + 10k + 21}{k^2 + 16k + 63} \cdot \frac{k^2 + 9k}{k^2 + 7k + 12}\)

Divide and, if possible, simplify.
54) \(\frac{3p - 3}{p} \div \frac{8p - 8}{3p^2}\)

55) Use the Pythagorean Theorem to find the height of a triangle whose hypotenuse is 5 meters long and whose base is 4 meters long.
   A) 3 meters  B) 8 meters  C) 18 meters  D) 7 meters

Graph the line containing the given pair of points.
56) \((3, 3), (-4, 3)\)

Solve the equation.
57) \(7s + 12 = -8s\)
58) $3(y + 8) - 4(y - 3) = 0$

Find the following.
59) Find $-(-x)$ when $x$ is -69.

Simplify.
60) $27 + (-51) - 18 - (-57) + (-79)$
61) $3[-3 + 8(-3 + 5)]$

Solve.
62) $x = \frac{w + y + z}{8}$ for $y$

Add or subtract as indicated.
63) Subtract. $(3q^2 + 10q - 8) - (6q^2 + 8q + 5)$

Perform the indicated operation. Write the answer in scientific notation.
64) $(5 \times 10^8)(7 \times 10^9)$

Find the requested angle.
65) Complement of $50^\circ$

Graph the linear equation.
66) $7x - y = -7$

Perform the indicated operation. Write the answer in scientific notation.
67) $9.18 \times 10^3 + 2 \times 10^1$
68) $\frac{9 \times 10^5}{3 \times 10^{-4}}$
Answer Key  
Testname: 0308FINALREVIEWFALL08

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<tbody>
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<td>1)</td>
<td>A</td>
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<tr>
<td>2)</td>
<td>Obtuse</td>
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<tr>
<td>3)</td>
<td>Scalene; right</td>
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<tr>
<td>4)</td>
<td>quadrilateral</td>
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<td>5)</td>
<td>1080°</td>
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<td>6)</td>
<td>94 m</td>
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<td>7)</td>
<td>306 ft²</td>
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<td>8)</td>
<td>379 yd²</td>
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<td>9)</td>
<td>575 cm²</td>
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<td>16)</td>
<td>33.493 m³</td>
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<td>17)</td>
<td>6336 mm³</td>
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<tr>
<td>18)</td>
<td>m∠2 = m∠4 = m∠8 = 113°, m∠1 = m∠3 = m∠5 = m∠7 = 67°</td>
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<tr>
<td>19)</td>
<td>14</td>
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<td>20)</td>
<td>75</td>
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<td>21)</td>
<td>D</td>
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<tr>
<td>22)</td>
<td>A</td>
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<tr>
<td>23)</td>
<td>175, 176, 177</td>
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<td>24)</td>
<td>31</td>
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<td>25)</td>
<td>37°, 121°, 22°</td>
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<td>26)</td>
<td>C = \frac{5}{9} (F - 32)</td>
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<tr>
<td>27)</td>
<td>12 hr</td>
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<td>28)</td>
<td>\frac{1}{2}</td>
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<td>29)</td>
<td>C</td>
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<td>31)</td>
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<td>32)</td>
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<td>33)</td>
<td>-16</td>
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<tr>
<td>34)</td>
<td>Trinomial, degree 4</td>
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<tr>
<td>35)</td>
<td>3x^5 + 16x^4 + 15</td>
</tr>
<tr>
<td>36)</td>
<td>πr² - 20π</td>
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<tr>
<td>37)</td>
<td>12x \times 14y³</td>
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<tr>
<td>38)</td>
<td>4x² - 81</td>
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<tr>
<td>39)</td>
<td>216p³ - 1</td>
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<td>40)</td>
<td>16x² - 16x + 4</td>
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<tr>
<td>41)</td>
<td>81m² + 180m + 100</td>
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<td>42)</td>
<td>10</td>
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