

1. Identify the terms of the polynomial: $7y^3 - 5y + x^6 - 2$
2. Perform the operations indicated. Simplify your answer completely.
 - a) $(-5z^2 + z - 8) + (6z^2 - 4z + 1)$
 - b) $(-2a - 4c + 7) - (a - 4c + 9)$
 - c) $(2y^2 + 9y - 3) - (8y^2 - 3y + 8) + (6y^2 - 6y + 9)$
 - d) $4x - 3(5x^2 + 7x - 1) + 6(-x^2 - 9)$
3. Multiply. Simplify your answer completely.

a) $4(5x^2 - x - 6)$	d) $(5x + 1)(x - 6)$
b) $-3y(4y^2 + 3y - 1)$	e) $(4y - 3)(y - 2)$
c) $(3a + 5)(a + 2)$	f) $(2x + 1)(5x^2 - x + 7)$
4. Solve. Simplify your answer completely.

a) $x - 6 = -24$	g) $\frac{y}{3} = -9 + 4$
b) $-10 = y + 8$	h) $13x = 5x + 36$
c) $-x = -13$	i) $2n - 5 = 7n + 40$
d) $\frac{4}{5} = -y$	j) $-3(y - 2) - 4 = 4(-2y + 1) - 3y$
e) $-24 = 3a$	k) $\frac{x}{2} - 4x = 14$
f) $7 - 9 = 6x + 2 - 5x$	l) $\frac{1}{6} - \frac{y}{12} = \frac{2}{3}$
5. Write the decimals in words.

a) 0.0374	b) 719.008	c) 56.12
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6. Write in decimal notation.
 - a) ninety-four thousandths
 - b) one thousand twenty and four tenths
 - c) sixty-two and eight hundred forty-nine ten thousandths

15. Evaluate for the given value.
- a) $x + 3.4$ for $x = -7.49$
 - b) $n - 0.618$ for $n = 4$
 - c) $541.29 - y$ for $y = 8.3$
 - d) $x - (-23.5)$ for $x = -0.06$

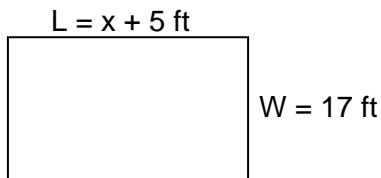
16. Combine like terms.

- a) $7.4x + 5x$
- b) $6.2y - 4.3y$
- c) $9.7x + 1.8x - 2y$

17. Find x , and then find the measure of **all three** angles of the given right triangle.



18. Find the value of x in the given rectangle if the perimeter is 90 feet.



19. One semester, a student writes a check for \$1062.39 to pay for tuition. Write the word name for the amount on the check.
20. Esther has \$429.78 in her checking account. She makes deposits of \$109.50 and \$80.49. She writes checks for \$9.27, \$71.63, and \$48.71. **Estimate** the new balance in Esther's checking account.
21. Tyrone spends \$87.06 at the grocery store. If he gives the clerk a 100-dollar bill, exactly how much change should he get?
22. Maya checked her odometer before the summer began. It read 15,027.6 miles. She traveled 3048 miles that summer in her car. What was the odometer reading at the end of the summer?

23. Jean's salary is twice Alex's salary. Riley's salary is \$125 less than Alex's salary.
- Define variable expressions for the salaries of Jean, Alex, and Riley.
 - Write the following phrase using math symbols:
Jean's salary plus Alex's salary minus Riley's salary
 - Simplify the expression from part (b).
24. Eight subtracted from four times a number is sixteen. What is the number?
- Write an equation.
 - Solve the equation and answer the question.
25. Rosario is a school principal, and Rene is a teacher at the school. Rene's annual salary is \$9750 less than Rosario's annual salary. The sum of Rosario's annual salary and Rene's annual salary is \$68,000. How much does each earn?
- Define the variable expressions.
 - Write an equation.
 - Solve the equation and answer the question.
26. A triangle has a perimeter of 164 meters. The length of the second side of a triangle is 9 meters longer than the first. The length of the third side of the triangle is triple the first. What is the length of each side of the triangle?
- Define the variable expressions.
 - Write an equation.
 - Solve the equation and answer the question.
27. The perimeter of a rectangle is 78 feet. The length of a rectangle is 15 feet shorter than double the width. What are the length and the width?
- Define the variable expressions.
 - Write an equation.
 - Solve the equation and answer the question.

ANSWERS

1. The four terms are: $+7y^3$, $-5y$, $+x^6$, and -2

2.
 - a) $z^2 - 3z - 7$
 - b) $-3a - 2$
 - c) $6y - 2$
 - d) $-21x^2 - 17x - 51$

3.

a) $20x^2 - 4x - 24$	d) $5x^2 - 29x - 6$
b) $-12y^3 - 9y^2 + 3y$	e) $4y^2 - 11y + 6$
c) $3a^2 + 11a + 10$	f) $10x^3 + 3x^2 + 13x + 7$

4.

a) $x = -18$	g) $y = -15$
b) $y = -18$	h) $x = \frac{9}{2}$ or $4\frac{1}{2}$
c) $x = 13$	i) $n = -9$
d) $y = -\frac{4}{5}$	j) $y = \frac{1}{4}$
e) $a = -8$	k) $x = -4$
f) $x = -4$	l) $y = -6$

5.
 - a) three hundred seventy-four ten thousandths
 - b) seven hundred nineteen and eight thousandths
 - c) fifty-six and twelve hundredths

6.
 - a) 0.094
 - b) 1020.4
 - c) 62.0849

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7. a) $\frac{9}{10}$ b) $50\frac{13}{1000}$ c) $403\frac{207}{10,000}$
8. a) 0.09 b) 8.3 c) 46.027
9. a) 375.6 b) 1649.06 c) 2504.194
10. 0.325
11. 12.53
12. a) 0.89 < 0.9
b) 0.276 < 0.2761
c) $0.\bar{3}$ > 0.32
13. 0.05 , $0.0\overline{45}$, 0.045 , $\frac{6}{1000}$, 0.005
14. a) 28.1334 g) 62.83
b) 20.309 h) 9000
c) 523.452 i) 0.34
d) - 43.83 j) - 21.2
e) 8.64 k) 20.28
f) - 39.816 l) - 8.44
15. a) - 4.09 c) 532.99
b) 3.382 d) 23.44
16. a) $12.4x$ b) $1.9y$ c) $11.5x - 2y$
17. $x = 16^\circ$
right angle = 90°
 $5x = 80^\circ$
 $x - 6^\circ = 10^\circ$

ANSWERS

18. $x = 23$ ft
19. One thousand sixty-two and $\frac{39}{100}$
20. Approximately \$490 in Esther's checking account
21. Exactly \$12.94 in change
22. 18,075.6 miles
23. a) $x = \text{Alex's salary}$
 $2x = \text{Jean's salary}$
 $x - 125 = \text{Riley's salary}$
b) $2x + x - (x - 125)$
c) $2x + 125$
24. a) $4n - 8 = 16$
b) $n = 6$
The number is 6.
25. a) $x = \text{Rosario's annual salary}$
 $x - 9750 = \text{Rene's annual salary}$
b) $x + (x - 9750) = 68,000$
c) $x = 38,875$
Rosario's annual salary = \$38,875
Rene's annual salary = \$29,125
26. a) $x = \text{length of first side}$
 $x + 9 = \text{length of second side}$
 $3x = \text{length of third side}$
b) $x + (x + 9) + 3x = 164$
c) $x = 31$
length of first side = 31 meters
length of second side = 40 meters
length of third side = 93 meters
27. a) $w = \text{width}$
 $2w - 15 = \text{length}$
b) $2(2w - 15) + 2(w) = 78$
c) $w = 18$
width = 18 feet
length = 21 feet