Practice test N-48
Ch9 & 10

Name_____

Solve the problem.

1) Four times a number, added to -6, is -14. Find the number.

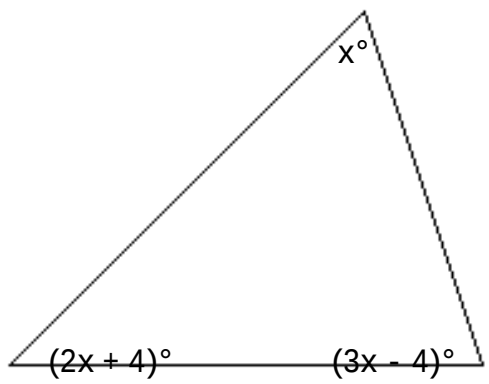
2) Clancy went shopping for new workout clothing. Her shorts cost $11 less than a pair of running shoes and her jacket cost $31 more than the running shoes. Find the cost of the jacket if Clancy spent $253 on the items, before sales tax.

3) During an intramural basketball game, Team A scored 19 fewer points than Team B. Together, both teams scored a total of 147 points. How many points did Team A score during the game?

4) John has a collection of quarters and nickels. If John has 5 less quarters than nickels, how many of each coin does he have if the total value of his collection is $8.35 ?

5) One angle of a triangle is 3 times as large as another. The measure of the third angle is 105° greater than that of the smallest angle. Find the measure of each angle.

6) Find the measure of each angle of the triangle.



7) The length of a rectangular room is 5 feet longer than twice the width. If the room's perimeter is 142 feet, what are the room's dimensions?

8) The perimeter of a triangle is 48 centimeters. Find the lengths of its sides, if the longest side is 7 centimeters longer than the shorter side, and the remaining side is 2 centimeters longer than the shorter side.

9) You are varnishing the background for a mural shaped like a right triangle. The base of the mural is 5 meters and the height of the mural is 9 meters. What is the length of the hypotenuse to the nearest tenth?

Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.

10) $7y^5 + 6y^3 - 2$

Add the polynomials. Express your answer in standard form.

11) $(6y^4 + 7y^3) + (5y^4 - 3y^3)$

Subtract the polynomials. Express your answer in standard form.

12) $(-16x + 18) - (-4x - 5)$

13) $\left(\frac{4}{5}y^2 - \frac{4}{6}y - 2\right) - \left(\frac{1}{8}y^2 + \frac{5}{9}y - 6\right)$

Simplify. Express your answer in standard form.

14) $(4a^5 + 9a^3) + (9a^5 + 3a^3) - (7a^5 - 8a^3)$

Evaluate the polynomial for the given value.

15) $-s^2t + 6st^2 - 6 \qquad s = 6 \text{ and } t = -4$

Simplify the expression.

16) $t^8 \cdot t^5 \cdot t^6$

17) $x \cdot x^4$

18) $(y^5)^3$

19) $(-3a)^2$

20) $(2x^5)^2$

21) $(-7x^6y^5)^2$

Multiply the monomials.

22) $(-6z^2)(2z^3)$

23) $\left(\frac{1}{9}x^8\right)\left(\frac{1}{7}x^3\right)$

24) $(8y)^3(y^5)^4$

Find the product.

25) $(z - 4)(z - 3)$

26) $(3x + 8)(x - 11)$

27) $(x^2 + 8)(x^2 + 6)$

28) $(6x - 11y)(3x - 6y)$

29) $(x + 9)(x - 9)$

30) $(4x + 7y)(4x - 7y)$

31) $(n + 4)^2$

32) $(3x + 8y)^2$

33) $\left(x - \frac{1}{8}\right)^2$

34) $(x - 9)(x^2 + 9x + 4)$

Use the Quotient Rule to simplify. All variables are nonzero.

35) $\frac{x^{15}}{x^6}$

36) $\frac{-9x^9}{36x^6}$

37) $\frac{-9x^7y^5}{-3x^3y}$

Use the Zero Exponent Rule to simplify. All variables are nonzero.

38) $(5ab)^0$

Use the Negative Exponent Rules to simplify. Write the answer with positive exponents. All variables are nonzero.

39) 7^{-1}

40) $8x^{-5}$

Use the Laws of Exponents to simplify. Write the answer with positive exponents. All variables are nonzero.

41) $\frac{56x^8}{7x^{13}}$

Divide and simplify.

42) $\frac{18r^6 - 30r^3}{6r}$

43) $\frac{42x^2 + 18x - 13}{6x}$

44) $\frac{-21x^7 - 24x^6 - 12x^5}{-3x^6}$

1) -2 the number is -2
2) the jacket cost $108.67
3) team A scored 64 points
4) 32 nickels and 27 quarters
5) 15°, 45°, 120°
6) 30°, 64°, 86°
7) Width = 22 ft; length = 49 ft
8) 13 cm, 7 cm, 20 cm
9) 10.3 meters
10) yes; $7y^5 + 6y^3 - 2$; degree 5; trinomial
11) $11y^4 + 4y^3$
12) $-12x + 23$
13) $\frac{27}{40}y^2 - \frac{11}{9}y + 4$
14) $6a^5 + 20a^3$
15) 714
16) t^{19}
17) x^5
18) y^{15}
19) $9a^2$
20) $4x^{10}$
21) $49x^{12}y^{10}$
22) $-12z^5$
23) $\frac{1}{63}x^{11}$
24) $512y^{23}$
25) $z^2 - 7z + 12$
26) $3x^2 - 25x - 88$
27) $x^4 + 14x^2 + 48$
28) $18x^2 - 69xy + 66y^2$
29) $x^2 - 81$
30) $16x^2 - 49y^2$
31) $n^2 + 8n + 16$
32) $9x^2 + 48xy + 64y^2$
33) $x^2 - \frac{1}{4}x + \frac{1}{64}$
34) $x^3 - 77x - 36$
35) x^9
36) $\frac{-x^3}{4}$
37) $3x^4y^4$
38) 1

39) $\frac{1}{7}$

40) $\frac{8}{x^5}$

41) $\frac{8}{x^5}$

42) $3r^5 - 5r^2$

43) $7x + 3 - \frac{13}{6x}$

44) $7x + 8 + \frac{4}{x}$