

Name: _____ Hr: _____

Practice Test for Unit 1
(Chapter 1 and 2)

1. Determine if $\sqrt{49}$ is rational or irrational. **(1 pt)** 1. _____
 - a. Rational
 - b. Irrational
2. Determine if $36^{\frac{1}{3}}$ is rational or irrational. **(1 pt)** 2. _____
 - a. Rational
 - b. Irrational
3. Find a value for n that makes the equation true. **(3 pts)** 3. _____
$$(x^n)^{18} = x^9$$

Simplify. All exponents must be positive and variables only represented once. (3 pts each)

4. $2^{\frac{1}{2}} \cdot 2^{\frac{3}{4}}$ 4. _____
5. $\left(\frac{3}{4}\right)^3$ 5. _____
6. $(2x^5y^4)^3$ 6. _____
7. $2x^{-5}$ 7. _____

Simplify. All exponents must be positive and variables only represented once. (3 pts each)

8. $\frac{x^{\frac{1}{7}}}{x}$ 8. _____
9. $-5x^0$ 9. _____
10. $\left(\frac{12a^2b^2c}{4a^{-3}b^4c^4}\right)^{-3}$ 10. _____
11. $\frac{16x^{\frac{2}{5}}y^2z^{\frac{1}{3}}}{24x^{\frac{2}{15}}y^{-3}z^{\frac{1}{3}}}$ 11. _____
12. $(16n^6)^{\frac{3}{4}}$ 12. _____

13. Rewrite the expression $(3x^2y^3)^{\frac{1}{4}}$ in radical form. (2 pts) 13. _____

14. Rewrite the expression $\sqrt[5]{(2ab)^3}$ (2 pts) 14. _____

Given the polynomial $4x - 3x^2 + 3x + 2 + 9x^2$ identify the stated information from the provided list below. (1 pt each)

a. $10x^2 + 3x + 2$	b. $(6x+1)(x+1)$	c. quadratic
d. 4	e. trinomial	f. $(3x+1)(2x+2)$
g. $6x^2 + 7x + 2$	h. 6	i. monomial
j. cubic	k. $(2x+1)(3x+2)$	l. 9
m. $(6x+2)(x+1)$	n. 2	o. linear
p. binomial	q. -3	

15. Standard Form 15. _____

16. Leading Coefficient 16. _____

17. Name based on degree 17. _____

18. Name based on # of terms 18. _____

19. Constant 19. _____

20. Factored Form 20. _____

Perform the operation and simplify. Write your answer in standard form. (3 pts each)

21. $(5m^3 + 4m - 6) - (4m^2 - 2m + 1)$ 21. _____

22. $(3x+5)^2$ 22. _____

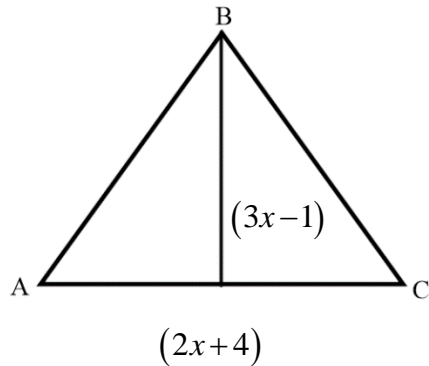
23. $(4x+5)(3x+1)$ 23. _____

24. $(3x+4)(7x^2 - 2x - 3)$ 24. _____

25. $(2a^2 - 4a - 3) + (a^2 + 8a - 5)$ 25. _____

Find the AREA of $\triangle ABC$. Write your answer in standard form: (3 pts)

26.



26. _____

Factor each expression completely. (3 pts each)

27. $n^2 - 7n + 10$

27. _____

28. $4w^2 - 9$

28. _____

29. $5x^3 + 20x^2 + 4x + 16$

29. _____

30. $3y^2 + 3y - 6$

30. _____

31. $12a^4 + 16a^3 - 8a$

31. _____

32. $10m^2 + 9m + 2$

32. _____

33. $w^2 - 100$

33. _____

34. $6y^3 - 3y^2 - 2y + 1$

34. _____

Give one value of b that would make the following polynomial factorable. (4 pts)

35. $x^2 + bx - 16$

35. _____

36. Mrs. Oswald writes the equation $x^2 + 4x - 12$ on the board. Parks says that it can be factored to equal $(x+4)(x-3)$. Austin says that it cannot be factored at all. Which student do you agree with, if any, and why? (4 pts)