

Name _____

Date _____ Pd. _____

Notes: Factoring Differences of Squares**Difference of Squares****Example 1****Factor each binomial.**

a. $n^2 - 64$

b. $4m^2 - 81n^2$

Example 2**Factor each polynomial.**

a. $50a^2 - 72$

b. $4x^4 + 8x^3 - 4x^2 - 8x$

Example**Solve each equation. Check your solutions.**

a. $x^2 - \frac{1}{25} = 0$

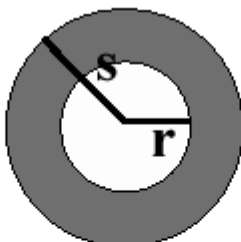
b. $4x^3 = 9x$

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Exit Card: Factoring Differences of Squares

Look at the figure below:



Which expression represents the area of the shaded region in completely factored form?

F. $\pi(s-r)(s+r)$

G. $\pi(s+r)^2$

H. $\pi(s-r)^2$

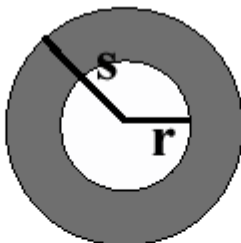
J. $\pi(s-r)$

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Homework: Pages 505 – 506 (19 – 22, 34 – 36, 47 – 49, 53, 54)

| | |
|--|--------------------|
| 19. $25 - 4p^2$ | 20. $-16 + 49h^2$ |
| 21. $-9r^2 + 121$ | 22. $100c^2 - d^2$ |
| 34. $25x^2 = 36$ | 35. $9y^2 = 64$ |
| 36. $12 - 27n^2 = 0$ | |
| 47. The United States Coast Guard's License Exam includes questions dealing with the breaking strength of a line. The basic breaking strength b in points for a natural fiber line is determined by the formula $900c^2 = b$, where c is the circumference of the line in inches. What circumference of natural line would have 3600 points of breaking strength? | |

48. The formula for the pressure difference P above and below a wing is described by the formula $P = \frac{1}{2}dv_1^2 - \frac{1}{2}dv_2^2$, where d is the density of the air, v_1 is the velocity of the air passing above, and v_2 is the velocity of the air passing below. Write this formula in factored form.

49. If a car skids on dry concrete, police can use the formula $\frac{1}{24}s^2 = d$ to approximate the speed s of a vehicle in miles per hour given the length d of the skid marks in feet. If the length of skid marks on dry concrete are 54 feet long, how fast was the car traveling when the brakes were applied?

53. What is the factored form of $25b^2 - 1$?

A $(5b - 1)(5b + 1)$

B $(5b + 1)(5b + 1)$

C $(5b - 1)(5b - 1)$

D $(25b + 1)(b - 1)$

54. In the figure, the area between the two squares is 17 square inches. The sum of the perimeters of the two squares is 68 inches. How many inches long is a side of the larger square?

