

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1) Simplify:  $(5x^2y^3)^4(-2xy^{-2})^2$

2) Simplify:  $\frac{(2a^5b^{-7})^3}{18a^{-3}b^4}$

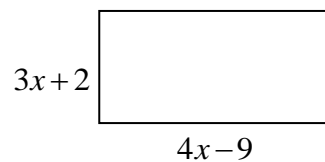
3) Multiply:  $(2x^2 - 3x)(4x^3 + 5x)$

4) Multiply:  $(3x^3 - 4x^2 + 8)(x - 7)$

5) GCF Factor:  $16x^4 + 72x^3 - 56x^2$

6) GCF Factor:  $21a^5b^2 - 15a^4b^2 + 12a^3b^2$

7) Find the area and perimeter of the rectangle:

8) If a rectangle has an area of  $8x^2 - 22x - 63$ , what are the length and width?

**Completely factor the following:**

9)  $x^2 + 12x + 35$

10)  $x^2 - 14x + 48$

11)  $3x^2 + 3x - 216$

12)  $x^2 - 196$

13)  $9x^2 - 121y^2$

14)  $5x^2 - 40x - 45$

15)  $12x^2 - 243$

16)  $7x^2y^4 - 21xy^4 + 14y^4$

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**Solve the following:**

17)  $x^2 - 2x - 35 = 0$

18)  $9x^2 - 4 = 0$

19)  $7x^2 - 12 = -17x$

20)  $3x^2 - 16x = -5$

21)  $4x^2 - 28x - 32 = 0$

22)  $7x^2 + 61x = -40$

23)  $6x^2 - 96 = 0$

24)  $3x^2 + 2x = 0$

