Algebra Name:_____

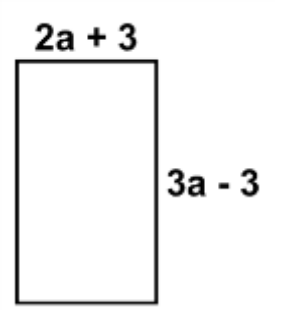
Polynomial Shapes Activity Date:_____ Algebra:_____

You will be working through the following activity with a partner. You should complete all parts of the activity on this paper.

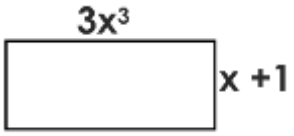
Part 1: Simple Shapes

Find the area and perimeter of the following rectangles:

1.



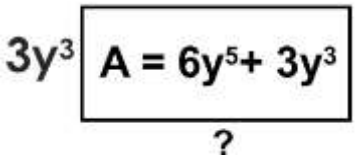
2.



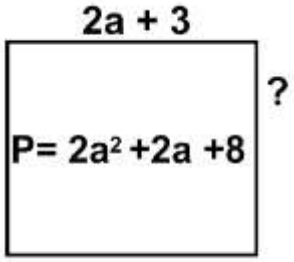
3. A rectangle's length is 5z and it's width is 3z -4 . What is the area and perimeter?

Find the missing side lengths given the area or perimeter:

4.



5.



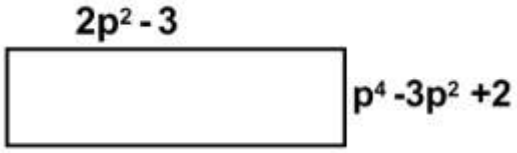
6. The area of a rectangle is $10a^7b^5 + 20a^5b^2$. If the length of the rectangle is $5ab^2$ what is the width?

7. The perimeter of a square is $20x^2$. What is the side length?

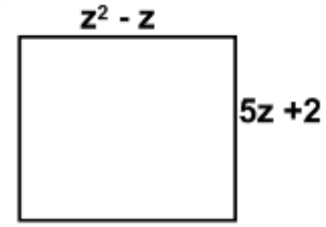
8. The perimeter of a rectangle is $50a^2 + 20$. The width is $a^2 + 2$, what is the length?

Find the area and perimeter of the following rectangles:

9.

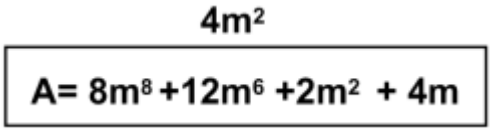


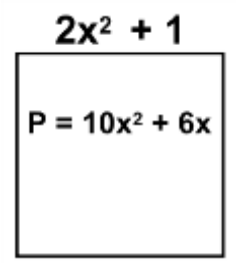
10.



11. A rectangle's length is $10z^2 + 2z - 1$ and it's width is $-2z$. What is the area and perimeter?

Find the missing side lengths given the area or perimeter:

12. 

13. 

14. The area of a rectangle is $8k^4 + 16k^3 + 12k^2$. If it's length is $4k^2$ what is its PERIMETER?

Reivew Problems:

Name each polynomial by degree and number of terms.

1) $3a^5 - 10a^4 + 4a^3 + 6a^2 - 3a - 7$

2) $-3m^7 - 9m^6 + 10m^5 - 3m^3 + 8m - 4$

3) $5x^7 - 7x^2 - 9$

4) $-7x^4$

Simplify each expression.

5) $(2x^3 + 8 - 5x^2 + 3x^4) + (6x^3 + 4x^2) - (3x^2 - 3x^4 - 7)$

6) $(2x + 3x^4 + 4x^3 - 5) - (x^2 - 3x^4) + (x^3 - 8x^4 + 6x^2)$

Find each product.

7) $(8n + 7)(6n - 8)$

8) $(3a - 5)(6a - 4)$

9) $(2n+1)(2n^2-n+3)$

10) $(4b+3)(4b^2-3b-8)$

11) $(4+8b)^2$

12) $(n-8)^2$

Divide.

13) $(24n^4+8n^3+24n^2) \div 8n$

14) $(24n^3+8n^2+5n) \div 8n$

15) $(9r^3+2r^2+9r) \div 9r$

16) $(9x^4+36x^3+27x^2) \div 9x^3$