

Show all of your work in the space provided. Take the time to check your work. Circle your final answers. Write neatly.

Simplify each expression. (2 points each)

1) $(2n^4 - 8n^2) + (4n^4 - 5n^2)$

2) $(6p^3 - 7p^2) - (9p^3 + 11p^2)$

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

4) $(k + 7)(k - 3)$

5) $(2g - 3)^2$

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

7) $(-2g + 4k)(11g - 8k)$

Bonus Question (up to 3 points):
You must show ALL work for full credit.

David is planning to create a rectangular garden in his backyard. The length of the garden will be represented by the polynomial expression $2g^2 + 5g + 3$ meters, and the width will be represented by the polynomial expression $g + 2$ meters.

a) Write a simplified expression for the area of the garden in terms of g .

b) David decides to add a pathway around the garden, and the width of the pathway is $2g$ meters on every side. Write a simplified polynomial expression, in terms of g , for the new length and width of the garden, including the pathway.

c) Express the new area of the garden, including the pathway, as a simplified polynomial expression in terms of g .