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## Polynomials Review

1. State the degree of each of the following polynomials
a) $\quad 2 a^{3} b c^{4}+9 a^{5}-6 a b c^{3}$
b) $\quad 2 h^{8} d-7 j h+16 d$
c) $\quad 14 m n+3 m^{4} n^{5}$
d) 6 jk
2. Classify the following polynomials by number of terms
a) $8 m^{7} n^{2} p$
b) $\quad 7 f+8 f^{4} g$
c) $12 a^{2}-3 a b-14 b+5$
d) $\quad 3 d-5 f^{6} d+6$
3. State whether the following contains a pair of like terms or unlike terms
a) $\quad 5 x^{2} y$ and $-9 y x^{2}$
b) $2 x^{3}$ and $2 x^{2}$
c) $\quad 8 x^{3} z$ and $-x^{3} z$
d) 9 and - 13.9
4. Simplify the following:
a) $4+v+5 v-10$
b) $12-4 m^{2}-8-m^{2}+2 m^{2}$
c) $\quad-2 a+6 b-2+b-4+a$
d) $y^{2}+7 x y-4 y^{2}+6 x y+8 x$
5. Expand and simplify the following
a) $9(6 n+1)$
b) $\quad-3(-6 b-10)$
c) $4\left(x^{2}+2 x-6\right)-10 x-8$
d) $9(-a+8)-(a-5)$
e) $5 x\left(6 x^{2}-4 x+3\right)$
f) $\quad 3 x(2 x+3)+4\left(x^{2}+2 x-4\right)$
$3 n-4$
6. A garden has the dimensions shown $\square$
5n
a) Find a simplified expression for the area
b) Find a simplified expression for the perimeter
c) Repeat parts a) and b) if both the length and width are tripled
d) Has this tripled the area? Justify your answer.
e) Has this tripled the perimeter? Justify your answer.
f) Using your ORIGINAL simplified expression, find the area and perimeter if $\mathbf{n}=\mathbf{1 7}$
7. Stephen simplified the following expression, as shown:

$$
\begin{aligned}
& 5\left(y^{2}+6 y+1\right. \\
= & 5 y^{2}+6 y+1 \\
= & 12 y^{3}
\end{aligned}
$$

a) Describe the error(s) Stephen made.
b) How can you convince Stephen that the two expressions are not equal?
c) Simplify the expression correctly
8. On a test, you get 5 marks for each correct answer, 1 mark for leaving the question blank, and you lose 2 marks for each incorrect answer.
a) Write an expression that describes the total score on the test.

Remember to DEFINE YOUR VARIABLES.
b) Thomas takes this test and gets 24 questions correct, leaves 3 blank, and gets 6 incorrect. Using your expression, find Thomas' total score.
9. Explain the distributive property. Create an example to support your explanation.

