Intermediate Algebra	**Name:**
Study Guide 30	**Class:**
Due Date:	**Score:**

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

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1. (2 points) Evaluate: $8!$

1. _____

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2. (2 points) Evaluate: $9! - 6!$

2. _____

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3. (2 points) Evaluate: $7! + 3!$

3. _____

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4. (2 points) Evaluate: $3! \cdot 5!$

4. _____

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5. (2 points) Evaluate: $\dfrac{7!}{3!}$

5. _____

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6. (2 points) Evaluate: $\dfrac{9!}{4! \cdot 5!}$

6. _____

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7. (2 points) Evaluate: $\dfrac{12!}{3! \cdot 5! \cdot 4!}$

7. _____

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8. (2 points) Evaluate: ${}_{12}P_4$

8. _____

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9. (2 points) Evaluate: ${}_{10}C_3$

9. _____

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10. (3 points) Expand: $\left(x+y\right)^4$**, make sure to box your final answer.**

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11. (4 points) Expand: $\left(x-y\right)^5$, make sure to box your final answer.

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12. (4 points) Find the first four terms of $(x^2-2y^3)^9$, make sure to box your final answer.

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13. (4 points) Find the 5th term of $\left(x-y^2\right)^{10}$

13. _____

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14. (4 points) Find the 6th term of $\left(x^3-y^8\right)^{12}$

14. _____

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15. (4 points) Find the middle term of $\left(4x^2 - 5y^6\right)^{10}$

15. _____

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16. (2 points) Find the sum: $\sum_{n=1}^{10} n$

16. _____

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17. (3 points) Find the sum: $\sum_{n=1}^{10} n^2$

17. _____

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18. (4 points) Use the answers from the last two questions with $n = 10$ **to evaluate** $\dfrac{n\sum n^2 - (\sum n)^2}{n(n-1)}$**. Final answer in reduced fraction.**

18. _____
