

GED Math Worksheet: Order of Operations & Algebraic Expressions

Directions: Solve each expression.

Part 1: Order of Operations (PEMDAS)

1. $8 + 2 \times 5$
 2. $(3 + 5) \times 2$
 3. $12 - 4 + 2$
 4. $6 \times (2 + 3)^2$
 5. $20 \div 5 \times 2$
 6. $(10 + 6) \div 2$
 7. $3 + 6 \times (5 + 4) \div 3$
 8. $7 + (6 \times 5^2 + 3)$
 9. $(8 + 2)^2 - 4 \times 5$
 10. $100 - (4 \times 5 + 6)$
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Part 2: Algebraic Expressions

11. Simplify: $3x + 5x$
 12. Simplify: $2a + 3b - a + 4b$
 13. Simplify: $6x - 2x + 4 - 3$
 14. Evaluate: $2x + 3$ when $x = 5$
 15. Evaluate: $4y^2 - 2y$ when $y = 3$
 16. Simplify: $5(x + 2)$
 17. Simplify: $2(x - 3) + 4x$
 18. Factor: $6x + 9$
 19. Evaluate: $3a - 2b$ when $a = 4, b = 2$
 20. Simplify: $4x - 2(x + 3)$
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Directions: Read each word problem carefully. Write and simplify an algebraic expression to represent the situation. Show your work in the space provided.

21. Maria is 5 years older than her brother. If her brother's age is (x) , write an expression for Maria's age.

Answer: _____

22. Jordan earns \$12 per hour working at a grocery store. Write an expression for how much he earns in (h) hours.

Answer: _____

23. A store is offering \$15 off the price of any jacket. If a jacket's original price is (p) , write an expression for the sale price.

Answer: _____

24. The length of a rectangle is (x) cm and the width is 3 cm less than the length. Write an expression for the perimeter.

Answer: _____

25. A phone plan costs \$40 per month plus \$0.10 for each text message sent. Write an expression for the total monthly cost if (t) text messages are sent.

Answer: _____

26. Sarah runs 2 miles more each day than her friend. If her friend runs (d) miles per day, write an expression for how far Sarah runs.

Answer: _____

27. A student buys (x) notebooks for \$2 each and one backpack for \$25. Write an expression for the total cost.

Answer: _____

28. An employee makes a base salary of \$500 plus \$50 for every item sold. Write an expression for the employee's total pay if they sell (i) items.

Answer: _____

29. A triangle has a base of (b) inches and a height of 3 inches more than the base. Write an expression for the area of the triangle.

Answer: _____

30. Tickets to a concert cost \$25 each. A group of friends also spends a total of \$60 on food. Write an expression for the total amount spent if (x) tickets are bought.

Answer: _____



Answer Key

Part 1: Order of Operations

1. 18
2. 16
3. 10
4. 150
5. 8
6. 8
7. 21
8. 160
9. 60
10. 74

Part 2: Algebraic Expressions

11. $8x$
12. $a + 7b$
13. $4x + 1$
14. 13
15. 30
16. $5x + 10$
17. $6x - 6$
18. $3(2x + 3)$
19. 8
20. $2x - 6$
21. $x + 5$
22. $12h$
23. $p - 15$
24. $2x + 2(x - 3) = 4x - 6$
25. $40 + 0.10t$
26. $d + 2$
27. $2x + 25$



28. $500 + 50i$

29. $\frac{1}{2} * b * (b + 3)$

30. $25x + 60$

