

MATH MOCK EXAMINATION (PREP)

Name: _____ Date: _____

SECTION A – OPERATIONS ON INTEGERS

1. Evaluate the following:

1. $-7 + 12 =$ _____

2. $15 - 20 =$ _____

3. $(-8) + (-5) =$ _____

4. $(-6) \times 4 =$ _____

5. $(-9) \div (-3) =$ _____

6. $18 \div (-2) =$ _____

7. $(-7) \times (-5) =$ _____

8. $-15 + 6 =$ _____

9. $25 - (-10) =$ _____

10. $(-12) \div 6 =$ _____

SECTION B – SIMPLIFICATION OF ALGEBRAIC TERMS

2. Simplify the following:

1. $3x + 5x$
 2. $9a - 4a$
 3. $7m + 2m - 3m$
 4. $6y - 2y + y$
 5. $4x \times 3x$
 6. $2a \times 5b$
 7. $12x^2 \div 3x$
 8. $20m^2 \div 5m$
 9. $8p + 3q - 2p$
 10. $10x - 3x + 2$
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SECTION C – SUBSTITUTION

3. Substitute the given values and evaluate.

1. If $x = 4$, find $2x + 5$
2. If $a = 3$, find $4a - 7$
3. If $m = 5$ and $n = 2$, find $m + 3n$
4. If $x = 6$, find $x^2 - 4$
5. If $p = 2$ and $q = 7$, find $pq + 3$

6. If $y = -2$, find $3y + 8$
 7. If $a = 4$, find $a^2 + 2a$
 8. If $x = 1$ and $y = 5$, find $2x + y$
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SECTION D – BINARY OPERATIONS

4. Use the given rule to answer each question.

1. If $a * b = a + b$, find: a) $3 * 5$ b) $7 * 2$
 2. If $a * b = ab + 1$, find: a) $2 * 4$ b) $5 * 3$
 3. If $a * b = a - b$, find: a) $9 * 4$ b) $12 * 7$
 4. If $a * b = 2a + b$, find: a) $3 * 6$ b) $5 * 2$
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SECTION E – EXPANDING BRACKETS

5. Expand the following:

1. $3(x + 4)$
2. $-4(y - 1)$
3. $(x + 2)(x + 3)$
4. $(a + 5)(a + 1)$
5. $(2x + 1)(x + 3)$

6. $(3a + 2)(a + 4)$

SECTION F – FACTORIZATION

6. Factorize the following using HCF.

1. $6x + 12$

2. $8a - 16$

3. $15m + 20$

4. $9y - 3$

5. $14x^2 + 21x$

7. Factorize the following using grouping.

1. $ax + ay + bx + by$

2. $3x + 3y + 2x + 2y$

3. $am - an + bm - bn$

4. $px + py - qx - qy$

5. $4a + 8b + 3a + 6b$