Unit 4: Variable Expressions	Name: Key
Pre-Algebra: Practice Test	Hour:

1pt each

4.1 I can simplify an expression by combining like terms.

1. $6x + 9y + 2x - 8y + 5$ $8x + y + 5$	2. $5ab + b - (-a) + 5 - 6a + 8b - 14 + 5$ $5ab - 5a + 9b - 4$
3. $9x - 7 + 3x - 4$ $12x - 11$	4. $11m - 3m + 5 - 6m + 7 - 2m$ 12
5. $x + x + y - x - y + 6 - 9 - x + 2y$ $2y - 3$	6. $a - (-b) + a - b + 2a + 7b - 5$ $4a + 7b - 5$

Score: 6 pts %

- Highlight
- Use a # line

Highlight key words

1pt. each

4.2 I can write verbal expressions as variable expressions.	
1. Seventeen more than a number m $17 + m$	2. A number x is at least 52 $x \geq 52$ (OR) $52 \leq x$
3. 32 less than a number p is less than or equal to that same number and 10 $p - 32 \leq p + 10$	4. The quotient of n and 27 times the quantity of n and 4 $\frac{n}{27(n+4)}$ (OR) $n \div 27(n+4)$
5. The difference of a number h and 5 is 15. $h - 5 = 15$	6. 22 is more than the number b squared decreased by 7 $22 > b^2 - 7$

4.2 I can identify the parts of an expression.	
$3x - 8 + 5y - 4 + 3x - 6y - 1 + 5xy$	
7. List the Terms: $3x, -8, 5y, -4, 3x, -6y, -1, 5xy$	8. Coefficients: $3, 5, -6$
9. Constant Terms: $-8, -4, -1$	10. Like Terms: $3x$ | $+5y$ | -8 $3x$ | $-6y$ | -4 | -1 |
$4b + 4a + 4 - 4 + 14b - 13a + 5 - c$	
11. List the Terms: $4b, 4a, 4, -4, 14b, -13a, 5, -c$	12. Coefficients: $4, 14, -13, -1$
13. Constant Terms: $4, -4, 5$	14. Like Terms: $4b$ | $4a$ | 4 $14b$ | $-13a$ | -4 | 5 |
• Highlight + Include the signs	Score: 14 pts. %

4.3 I can evaluate variable expressions. Evaluate the variable expression when $x = -2, y = 4,$ *and* $z = -1$

2 pts. each

1. $x^2 - x + y - (-z)$

$(-2)^2 - (-2) + 4 - (-1)$

$4 + 2 + 4 - 1$

$\boxed{9}$

2. $\frac{xyz}{8z}$

$\frac{(-2)\cdot(4)\cdot(-1)}{8(-1)} = \frac{8}{-8}$

$\boxed{-1}$

3. $x - y + z - (-z)$

$(-2) - (4) + (-1) - (-1)$

$-2 - 4 - 1 - 1$

$\boxed{-8}$

4. $(4x)^2 + \frac{y}{z}$

$(4(-2))^2 + \frac{4}{-1}$

$(-8)^2 + (-4)$

$64 - 4$

$\boxed{60}$

5. $-(z)^2 + y - 2$

$-(-1)^2 + 4 - 2$

$-1 + 4 - 2$

$\boxed{1}$

6. $x + y \div x + z \div -1$

$(-2) + \underbrace{(4) \div (-2)} + \underbrace{(-1) \div -1}$

$-2 \quad -2 \quad + 1$

$\boxed{-3}$

Score: 12 pts. %

- PEMDAS
- Pay attention to details
- Show every step

1 pt. each

4.4 I can apply the Distributive Property	
1. $-2(x-3)$ $-2x+6$	2. $(x-7)6$ $6x-42$
3. $-(x-5)$ $-x+5$	4. $8(-3y+1)$ $-24y+8$
5. $(7+3x)(-10)$ $-70-30x$	6. $x(3x-5)$ $3x^2-5x$
7. $4(m^2-m-2)$ $4m^2-4m-8$	8. $(5a+2b-7)3$ $15a+6b-21$
	Score: 8 pts %

- Pay attention to details (negatives)

- Distribute
- Then combine like terms

4.5 I can simplify variable expressions.

2 pts each

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

$-5x^2-10-x+4+3x$

$-5x^2+2x-6$

2. $x(x-4)+-(-7)$

x^2-4x+7

3. $9(8-6v^2)-12v^2+20$

$72-54v^2-12v^2+20$

$-66v^2+92$

4. $-(m+9)-13m+12$

$-m-9-13m+12$

$-14m+3$

5. $5(m+4)-(m-5)-4(m^2+1)$

$5m+20-m+5-4m^2-4$

$-4m^2+4m+21$

6. $4x(-5x+8)-x(2x-7)-(-5x-8)+3(4x+8)$

$-20x^2+32x-2x^2+7x+5x+8+12x+24$

$-22x^2+56x+32$

3 pts each

7. Find the area and the perimeter of the triangle.

Area =

$A=\frac{1}{2}bh$

$=\frac{1}{2}(4x)(x-2)$

$=2x(x-2)$

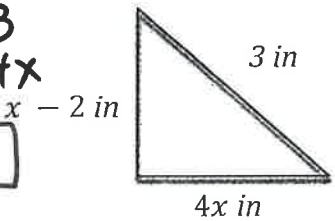
$\boxed{=2x^2-4x\ in^2}$

Perimeter

$P=S1+S2+S3$

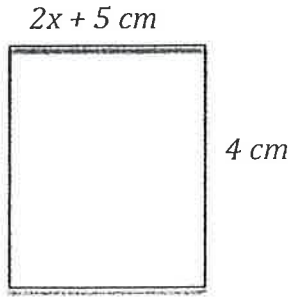
$=3+(x-2)+4x$

$\boxed{=5x+1\ in}$



3 pts each

8. Find the area and the perimeter of the rectangle.



Area =

$A=bh$

$=(2x+5)(4)$

$\boxed{=8x+20cm^2}$

Perimeter

$P=2b+2h$

$=2(2x+5)+2(4)$

$=4x+10+8$

$\boxed{=4x+18\ cm}$

- Show at least 3 steps ea.

Score: 24 pts %

1) Formula
2) Plug in what you know
3) Solve + label