Center #1 – Evaluate the expression when x = 20 and y = 4

1. $x \div 5$ 2. $xy - 8y$ 3. $x^2 - y^3$

Factor the expression using the GCF.

4. $3x + 12$ 5. $18m - 30$

Center #2 – Write the phrase as an expression. Then evaluate when a = 5 and b = 8.

1. The sum of 7 and the product of a number a and 12

2. b fewer than the number 11

3. The product of 4 and the difference of 9 and the number a.

4. A number 17 decreased by b

5. Your basketball team scored 4 fewer than twice as many points as the other team. Write an expression using the variable p for points. How many points did your team score if the other team scored 24 points?

Center #3 – Simplify and state the property you used for each step.

1. 10 + (2 + y)   2. (21 + b) +1   3. 3(7x) + 0

4. 5.3 (w + 1.2)   5. 36 • r • 1   6. 7 + 3x + 4

Center #4 – Simplify the expression.
1. $5a - 15 + 4a$ 2. $3(x + 4y) + 2x - 7y$ 3. $24 + (m - 7)$

Center #5 – Identify the terms, coefficients, and constants.
1. $5m + 3$ 2. $3a + b$ 3. $4x^2 + 8y + 3$

Terms: Terms: Terms:

Coefficients: Coefficients: Coefficients:

Constants: Constants: Constants:

Center #6
Tickets to the play cost $8 for adults and $5 for kids. Write an expression for the total cost of x adults and y kids tickets. Then use the expression to find the total cost if 12 adults and 7 kids attend the play.

Each side of a triangle has a length of 24y centimeters. Draw what this looks like then write an expression for the perimeter of the triangle (in centimeters).

Center #1 – Evaluate the expression when x = 20 and y = 4

1. $x \div 5$

$20 \div 5 = 4$

2. $xy - 8y$

$20 \cdot 4 - 8 \cdot 4$
$80 - 32 = 48$

3. $x^2 - y^3$

$20^2 - 4^3$
$400 - 64 = 336$

Factor the expression using the GCF.

4. $3x + 12$

$3 \cdot x + 3 \cdot 4$
$3(x + 4)$

5. $18m - 30$

$6 \cdot 3m - 6 \cdot 5$
$6(3m - 5)$

Center #2 – Write the phrase as an expression. Then evaluate when a = 5 and b = 8.

1. The sum of 7 and the product of a number a and 12

$7 + 12a \rightarrow 7 + 12 \cdot 5$
$7 + 60 = 67$

2. b fewer than the number 11

$11 - b \qquad 11 - 8 = 3$

3. The product of 4 and the difference of 9 and the number a.

$4(9 - a) \qquad 4(9 - 5)$
$4(4) = 16$

4. A number 17 decreased by b

$17 - b \qquad 17 - 8 = 9$

5. Your basketball team scored 4 fewer than twice as many points as the other team. Write an expression using the variable p for points. How many points did your team score if the other team scored 24 points?

$2p - 4 \rightarrow 2(24) - 4$
$48 - 4 = 44 \text{ pts.}$

Center #3 – Simplify and state the property you used for each step.

1. $10 + (2 + y)$

$(10 + 2) + y$ assoc.
$12 + y$

2. $(21 + b) + 1$

$b + (21 + 1)$ comm. and assoc.
$b + 22$

3. $3(7x) + 0$

$3(7x)$ zero prop. of add
$(3 \cdot 7)x$ assoc.
$21x$

4. $5.3(w + 1.2)$

$5.3w + 6.36$ Distributive

5. $36 \cdot r \cdot 1$

$36 \cdot 1 \cdot r$ comm.
$36r$ mult prop of one
or
identity property

6. $7 + 3x + 4$

$7 + 4 + 3x$ comm
$11 + 3x$

Center #4 – Simplify the expression.

1. $5a - 15 + 4a$ 2. $3(x + 4y) + 2x - 7y$ 3. $24 + (m - 7)$

$9a - 15$

$3x + 12y + 2x - 7y$
$5x + 5y$

$24 + m - 7$
$24 - 7 + m$
$17 + m$

Center #5 – Identify the terms, coefficients, and constants.

1. $5m + 3$ 2. $3a + b$ 3. $4x^2 + 8y + 3$

Terms: $5m, 3$

Terms: $3a, b$

Terms: $4x^2, 8y, 3$

Coefficients: 5

Coefficients: $3, 1$

Coefficients: $4, 8$
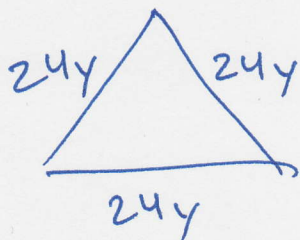
Constants: 3

Constants: none

Constants: 3

Center #6
Tickets to the play cost $8 for adults and $5 for kids. Write an expression for the total cost of x adults and y kids tickets. Then use the expression to find the total cost if 12 adults and 7 kids attend the play.

$8x + 5y$
$8 \cdot 12 + 5 \cdot 7$
$96 + 35 = \$131$

Each side of a triangle has a length of 24y centimeters. Draw what this looks like then write an expression for the perimeter of the triangle (in centimeters).

$24y + 24y + 24y$
$72y$ cm.