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

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

4. In a video game, you score p game points and b triple bonus points. An expression for your score is p + 3b. What is your score when you earn 245 game points and 20 triple bonus points?

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)

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

Center #4 – Simplify the expression.

1. 5 (a – 3) + 4a
2. 3 (x + 4y) + 2x – 7y
3. $1\frac{3}{4}+\frac{1}{3}\left(z+\frac{7}{8}\right)$

Center #5 – Factor the expression using the GCF.

1. 15 + 35
2. 36x – 28
3. 16m + 56n

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).

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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. $x^2 - y^3$ → $20^2 - 4^3$, $400 - 64 = 336$

4. In a video game, you score p game points and b triple bonus points. An expression for your score is p + 3b. What is your score when you earn 245 game points and 20 triple bonus points?

$245 + 3(20)$

$245 + 60 = 305$ points

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

$7 + 12a$ → $7 + 12 \cdot 5$, $7 + 60 = 67$

2. *b* fewer than the number 11

$11 - b$ → $11 - 8 = 3$

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

$4(9 - a)$ → $4(9 - 5)$, $4(4) = 16$

4. A number 17 decreased by *b*

$17 - b$ → $17 - 8 = 9$

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?

$2p - 4$ → $2(24) - 4$, $48 - 4 = 44$ points

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

1. $10 + (2 + y)$

$(10 + 2) + y$ associative property

$12 + y$

2. $(21 + b) + 1$

$b + 21 + 1$ commutative property

$b + 22$

3. $3(7x)$

$(3 \cdot 7)x$ associative property

$21x$

4. $5.3(w + 1.2)$

$5.3w + 6.36$ distributive property

5. $36 \cdot r \cdot 1$

$36 \cdot 1 \cdot r$ commutative property

$36r$ identity property of multiplication or property of one

6. $7 + 3x + 4$

$7 + 4 + 3x$ commutative property

$11 + 3x$

Center #4 – Simplify the expression.

1. 5 (a – 3) + 4a

$5a - 15 + 4a$

$9a - 15$

2. 3 (x + 4y) + 2x – 7y

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

$5x + 5y$

3. $1\frac{3}{4} + \frac{1}{3}\left(z + \frac{7}{8}\right)$

$1\frac{3}{4} + \frac{1}{3}z + \frac{7}{24}$

$1\frac{18}{24} + \frac{7}{24} + \frac{1}{3}z$

$1\frac{25}{24} + \frac{1}{3}z$

$2\frac{1}{24} + \frac{1}{3}z$

Center #5 – Factor the expression using the GCF.

1. 15 + 35

$5 \cdot 3 + 5 \cdot 7$

$5(3 + 7)$

2. 36x – 28

$4 \cdot 9x - 4 \cdot 7$

$4(9x - 7)$

3. 16m + 56n

$8 \cdot 2m + 8 \cdot 7n$

$8(2m + 7n)$

Center #6

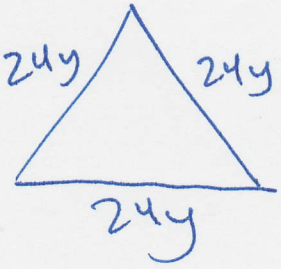
Tickets to the play cost $8 for adults and $5 for kids. Write an expression for the total cost of x adults and y kids tickets. Then use the expression to find the total cost if 12 adults and 7 kids attend the play.

$8x + 5y$

$8 \cdot 12 + 5 \cdot 7$

$96 + 35 = \$131$

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.