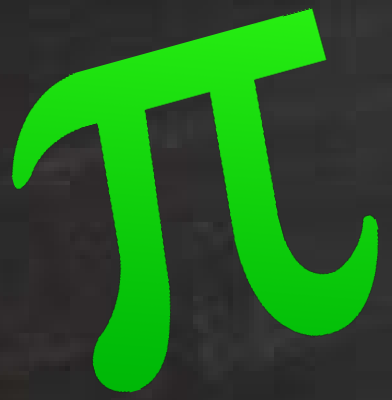


MATH MASH

St. Michael the Archangel High School

Lynne Guarisco

CariAnne McLean

Topics

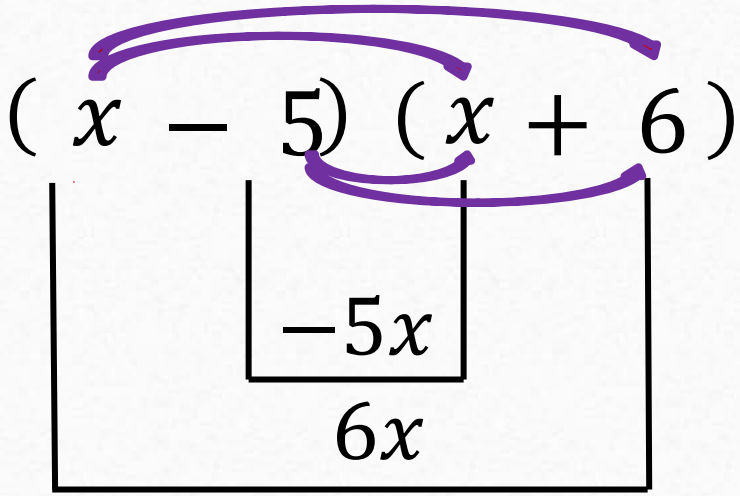
- Factoring Trinomials
- Review and Remediate
- Writing Skills in Math

Factoring Trinomials

$$ax^2 + bx + c$$

$ax^2 + bx + c$

$x^2 + x - 30$



$x^2 + x - 30$

$a \cdot c$

$(1)(-30)$

b

$+1$

$(\pm)$ -30

$-1 \cdot 30$

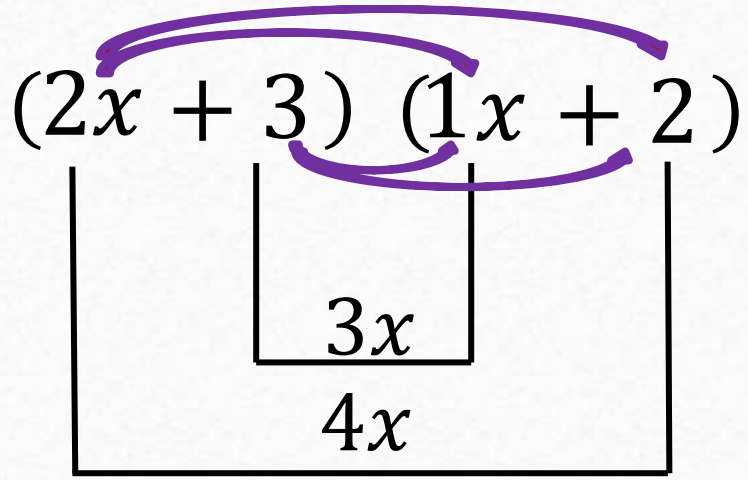
$-2 \cdot 15$

$-3 \cdot 10$

$-5 \cdot 6$ → $-5 + 6 = 1$

$ax^2 + bx + c$

$2 \cdot 1$ $2x^2 + 7x + 6$



$2x^2 + 7x + 6$

$\frac{a \cdot c}{(2)(6)}$ $\frac{b}{+7}$

(+) 12

$1 \cdot 12$

$2 \cdot 6$

$3 \cdot 4$ → $3 + 4 = 7$

$$ax^2 + bx + c$$

$$6x^2 + 5x - 4$$

$6 \cdot 1$

$2 \cdot 3$

$$(2x - 1)\ (3x + 4)$$

$-3x$

$8x$

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

$a \cdot c$	b
$(6)(4)$	-5
$(\pm)\ -24$	

$-1 \cdot 24$

$-2 \cdot 12$

$-3 \cdot 8$ → $-3 + 8 = 5$

$-4 \cdot 6$

$ax^2 + bx + c$

$5x^2 - 17x - 12$

$5 \cdot 1$

$(5x + 3)\ (1x - 4)$

$3x$

$-20x$

$5x^2 - 17x - 12$

$a \cdot c$

$(5)(-12)$

b

-17

$(\pm)\ -60$

$1 \cdot (-60)$

$2 \cdot (-30)$

$3 \cdot (-20)$ → $3 - 20 = -17$

$4 \cdot (-15)$

$5 \cdot (-12)$

$ax^2 + bx + c$

$10x^2 + 7x - 12$

$10 \cdot 1$

$5 \cdot 2$

$(5x - 4)\ (2x + 3)$

$-8x$

$15x$

$10x^2 + 7x - 12$

$a \cdot c$	b
$(10)(-12)$	$+7$

$(\pm)\ -120$

$-1 \cdot 120$

$-2 \cdot 60$

$-3 \cdot 40$

$-4 \cdot 30$

$-5 \cdot 24$

$-6 \cdot 20$

$-8 \cdot 15$ → $-8 + 15 = 7$

Review and Remediate

- Technology
- Review Stations
- Flipped Classrooms

Technology

- **Prodigy** – www.prodigygame.com
- **Quizlit Live** – www.quizlet.com/features/live
- **Desmos** – www.desmos.com
- **Kahoot** – www.getkahoot.com

Prodigy

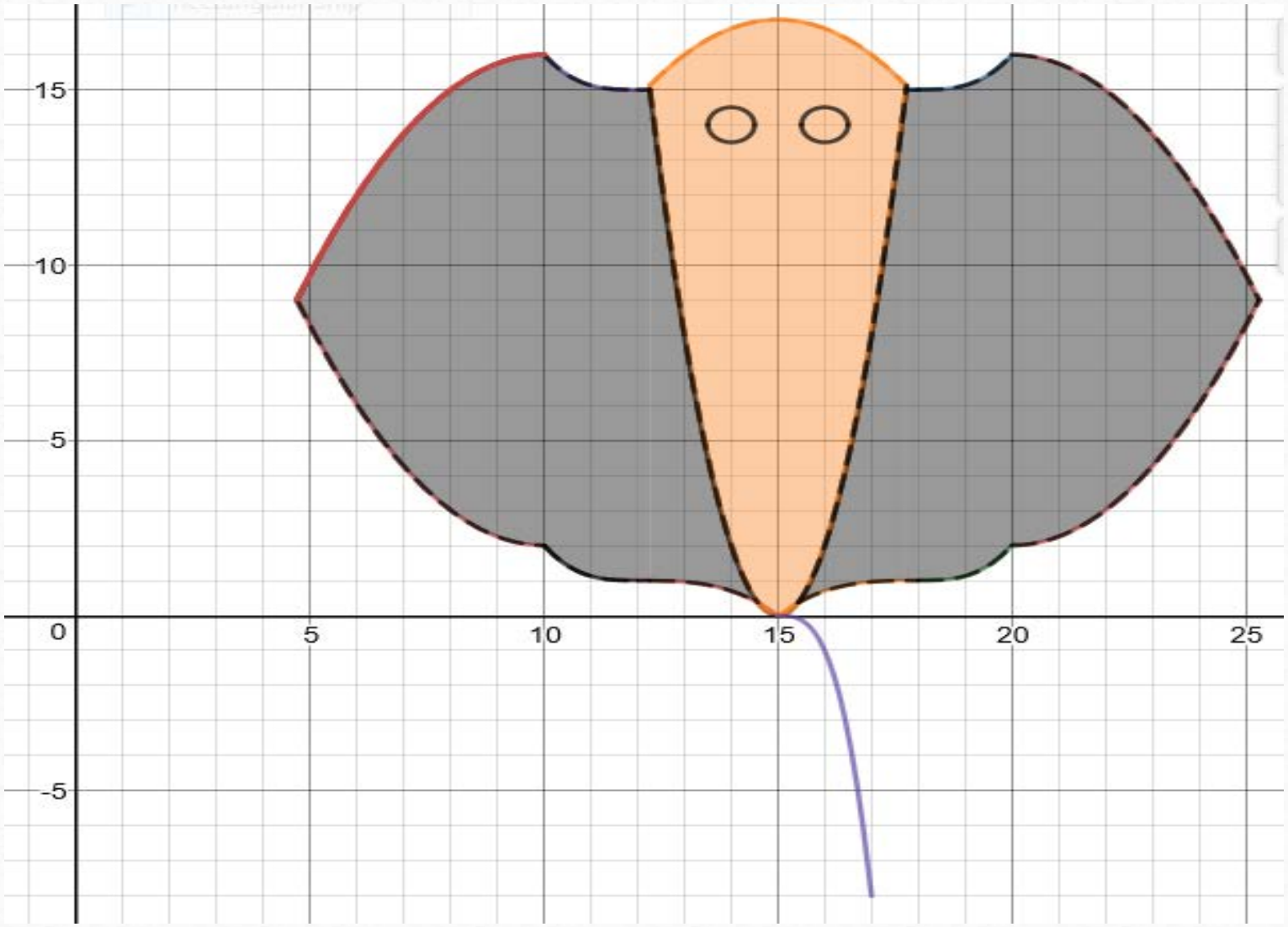
www.prodigygame.com

- Free online, math-based curriculum aligned, role playing game
- Game is self-paced, therefore students can work at different levels
- Teacher can assign skills individually based on the student's level

Desmos

www.desmos.com

- Free online graphing calculator connecting mathematical concepts to concreate “real-world” shapes and graphs
- Instantly see results graphed using the slider feature, shading, and domain and range restrictions
- Great for graphing projects using different relations and functions


15
10
5
0
-5
5
10
15
20
25

1. $f(x) = -\left(\frac{1}{2}x - 5\right)^2 + 16\{4.$

2. $g(x) = \left(\frac{1}{2}x - 5\right)^2 + 2\{4.71 <$

3. $k(x) = -\left(\frac{1}{2}x - 7.5\right)^2 + 17\{$

4. $l(x) = 2(x - 15)^2\{12.26 < x$

5. $m(x) = -\left(\frac{1}{2}x - 10\right)^2 + 16\{$

6. $n(x) = \left(\frac{1}{2}x - 10\right)^2 + 2\{20 <$

7. $u(x) = \left(\frac{1}{2}x - 9\right)^3 + 15\{17.7$

8. $p(x) = \left(\frac{1}{2}x - 9\right)^3 + 1\{18 <$

9. $v(x) = -\left(\frac{1}{2}x - 6\right)^3 + 15\{10$

10. $q(x) = \left(\frac{1}{3}x - 6\right)^3 + 1\{15 <$

11. $r(x) = -\left(\frac{1}{2}x - 6\right)^3 + 1\{10 <$

12. $t(x) = -\left(\frac{1}{3}x - 4\right)^3 + 1\{12 <$

13 $g(x) < y < f(x)$

14 $n(x) < y < m(x)$

15 $l(x) < y < k(x)$

16 $r(x) < y < v(x)$

17 $t(x) < y < v(x)$

18 $t(x) < y < l(x)$

19 $p(x) < y < u(x)$

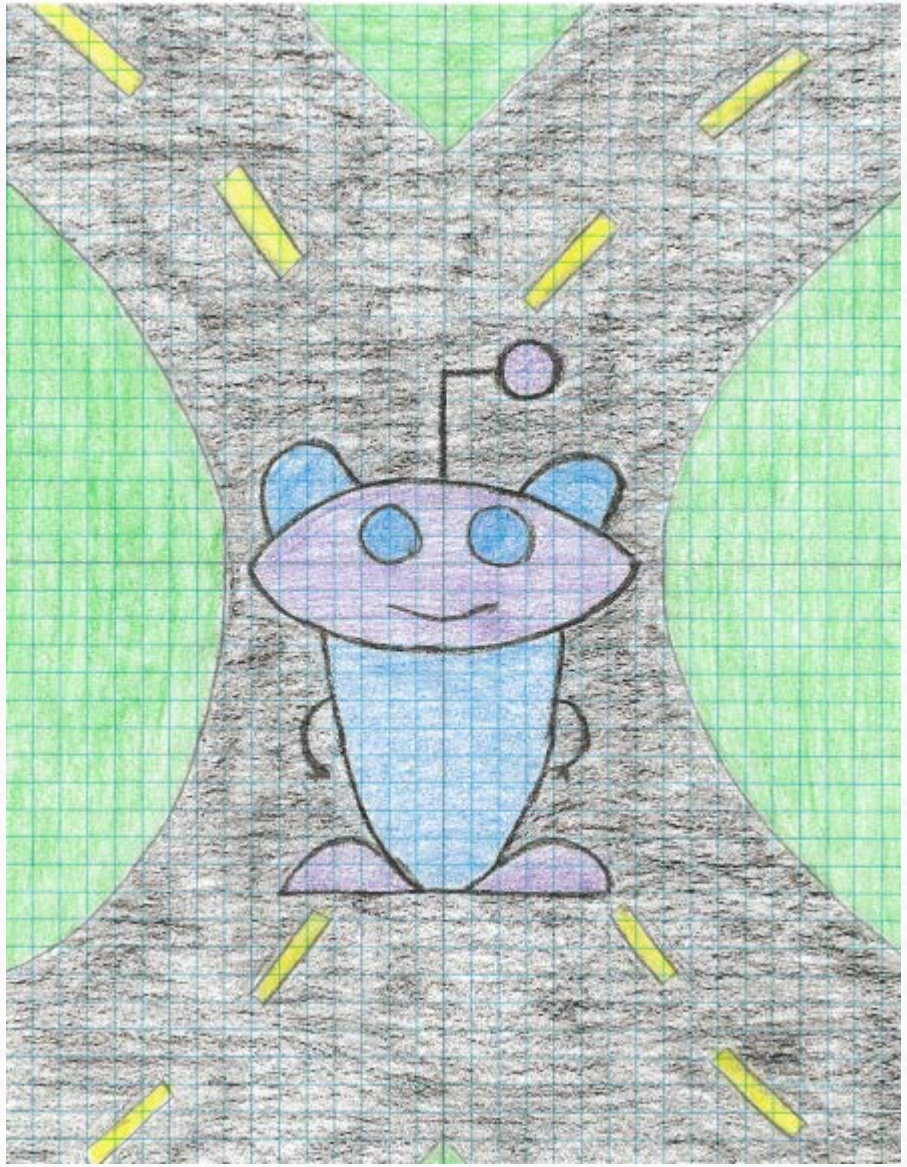
20 $q(x) < y < u(x)$

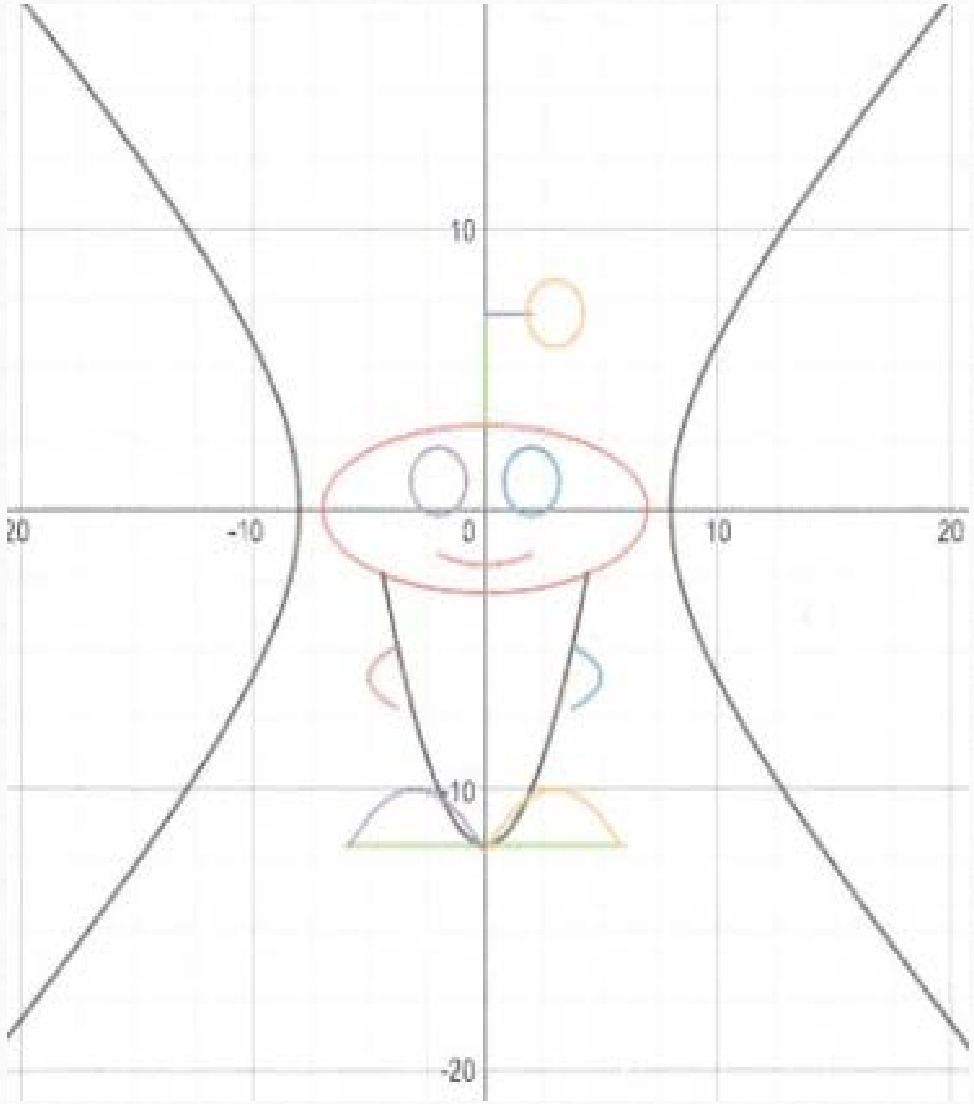
21 $q(x) < y < l(x)$

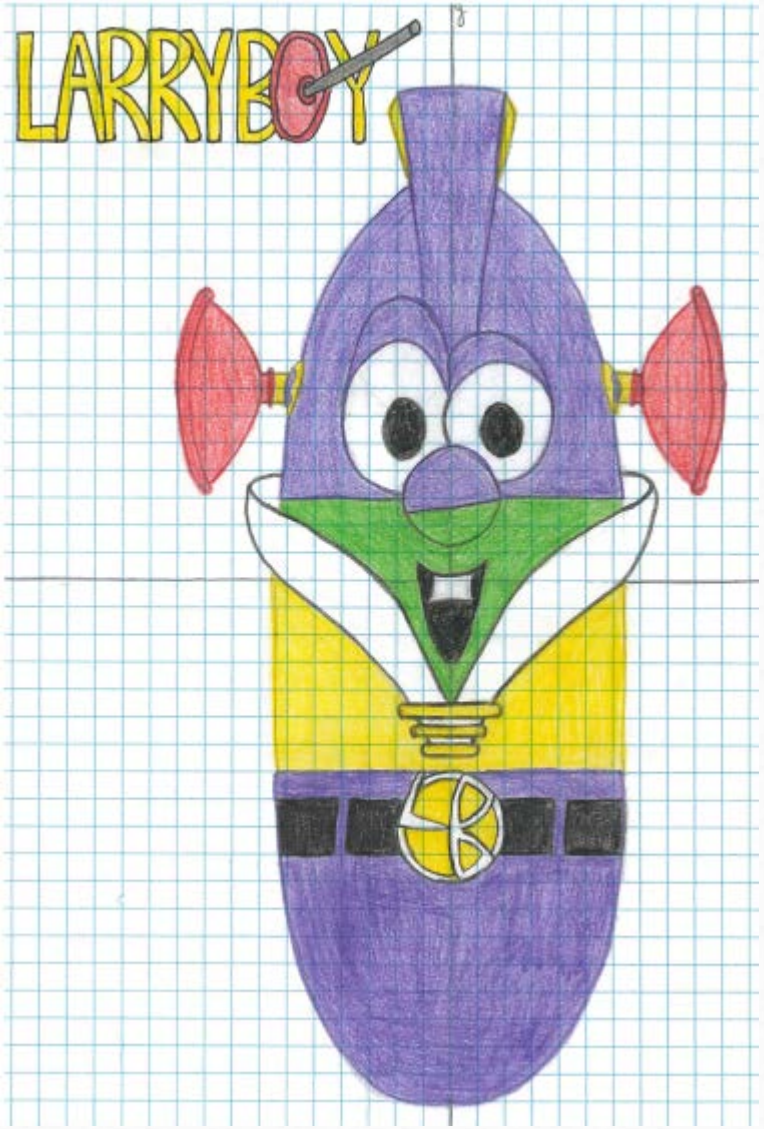
22 $(x-14)^2 + (y-14)^2 = \frac{1}{4}$

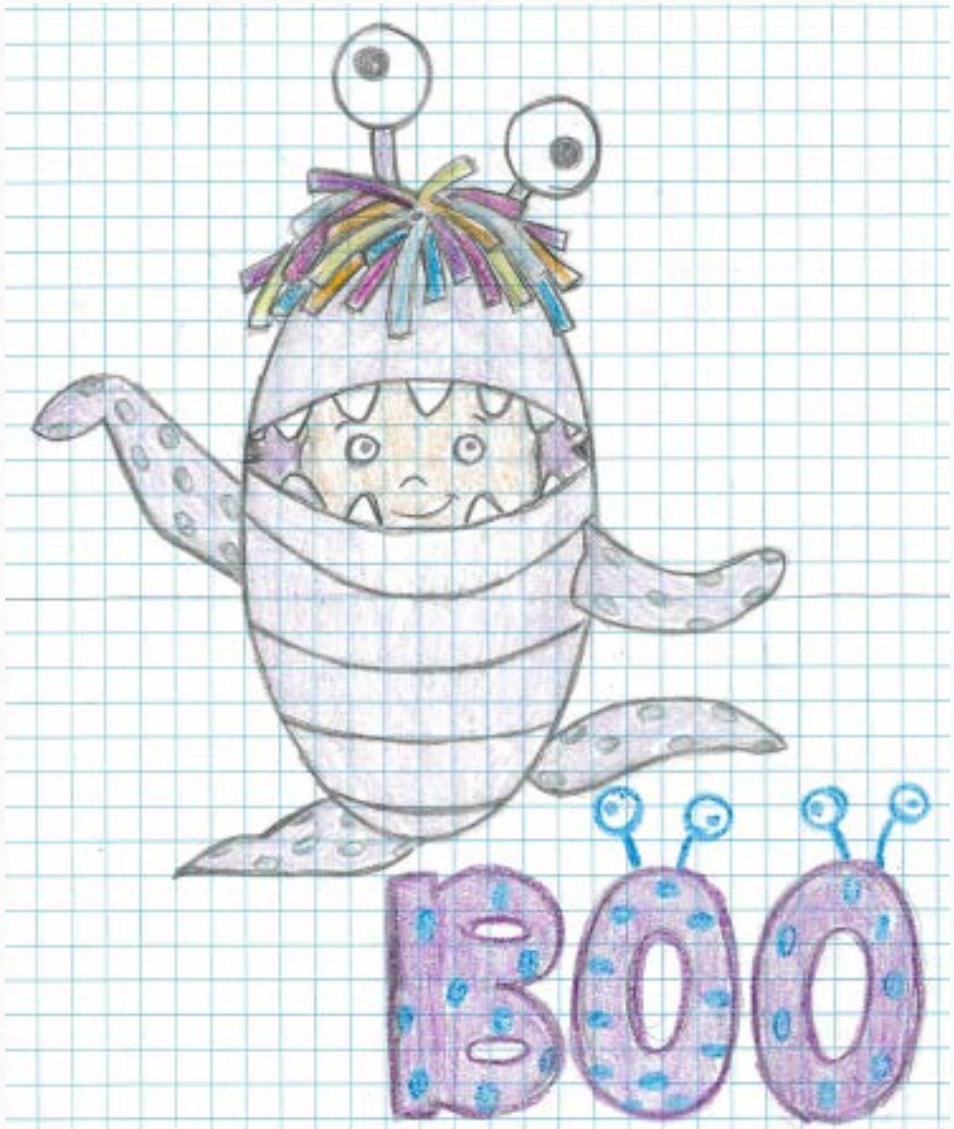
23 $(x-16)^2 + (y-14)^2 = \frac{1}{4}$

24 $-(x-15)^3\{15 < x < 17\}$




10
20
-10
0
10
20
-10
-20


LARRYBOY


BOO

Quizlit Live

www.quizlet.com/features/live

- New classroom game using any quizlet set
- Students are randomly paired allowing them to learn to work and communicate together to find the answer
- Game can be used for any subject or grade level
- Great for reviewing for a quiz or test

Kahoot

www.getkahoot.com

- Free online game-based learning platform
- Game can be used for any subject or grade level
- Teacher can decide on the content, make your own, or choose one of the free public games
- Best played in a group setting

Review Stations

- Great way to review concepts when preparing for a test
- Allows the students to get out of their seat and move around
- Forces the student to write the problem and check their answer
- Pairing a strong student with a weak student benefits both students.

Flipped Classrooms

- Works well when remediating a topic
- Works well when the teacher is out of the classroom
- Use instructional videos, video mixes, or textbook resources to aid the student.

Writing Skills in Math

- Improves math vocabulary and terminology
- Reaffirms concepts learned
- Allows students to organize their thoughts in a methodical manner
- Prepares student for college

Describe and correct the error in evaluating the expression. State the concept used. Use correct math terminology and complete sentences.

Error Problem

$$20 - \frac{1}{2} \cdot 6^2 = 20 - 3^2$$
$$= 20 - 9$$
$$= 11$$

Corrected Problem

$$20 - \frac{1}{2} \cdot 6^2 = 20 - \frac{1}{2} \cdot 36$$
$$= 20 - 18$$
$$= 2$$

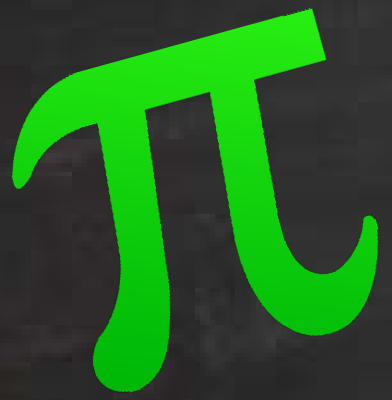
Concept Used

To evaluate the expression the order of operations must be used. The student would then explain the order of operations.

Error Explanation

The error occurred when the student multiplied $\left(-\frac{1}{2}\right)$ $times$ 6 first and then squared 3.

The student should have squared the 6 first and then multiplied by $\left(-\frac{1}{2}\right)$ resulting in (-18). The operation of addition would be next, which is $20 - 18 = 2$.



Thank you for Coming!

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