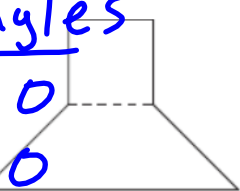
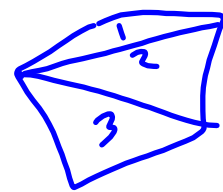


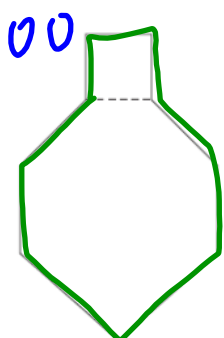
Cycle 1 Review

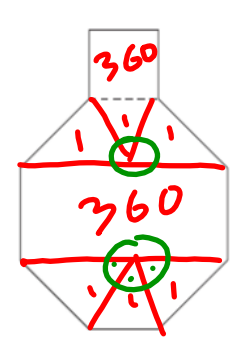
1. Which of the following composite shapes has 900° as the sum of its interior angles?

sides	Angles
3	180
4	360
5	
7	

A. 






B. 

C.  900

D. 

$(n-2) \times 180$

2. Complete the following robot table and determine the rule it represents.

Input	→	Robot	→	Output
4	→		→	17
3	→		→	14
0	→		→	5
1	→		→	8
2	→		→	11

1 → 3 → 6

2 → 7 → 10

$17 - 5 = \frac{12}{3} = 4$

The rule is:

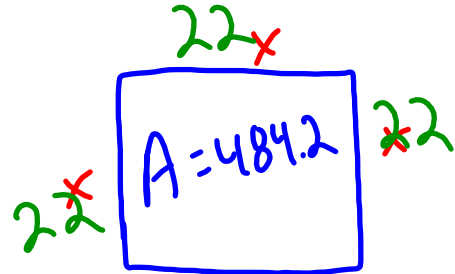
$n \times 3 + 5$

3. The City of Mathville wants to build a rectangular splashpad in their only park. The cement will cost \$9.50/ft². Mathville has \$4600 to spend on cement. The city wants to use the least amount of fencing to enclose the splashpad, but spend all of their cement budget.

What are the dimensions of the ideal splashpad?

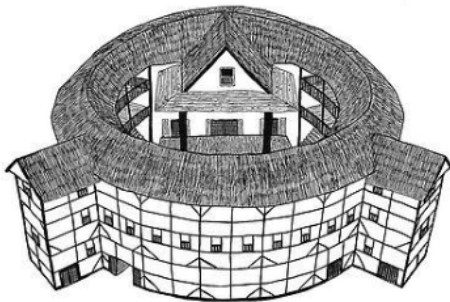
$$\frac{\$4600}{\$9.50/\text{ft}^2} = 484.2 \text{ ft}^2$$

$$\sqrt{484.2} = 22$$



∴ the ideal splash pad should be 22ft x 22ft.

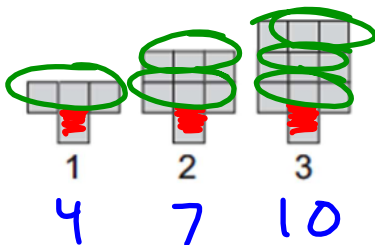
4. Shakespeare's Globe Theatre's inner structure was originally built with a base in the shape of a 20-sided regular polygon. Determine the **measure of one interior angle** of the inner structure of the Globe Theatre.



$$\begin{aligned} &(n-2) \times 180 \\ &= (20-2) \times 180 \\ &= (18)180 \\ &= \underline{3240^\circ} \\ &20 \end{aligned}$$

each angle is 162°

5. Angela created the pattern below. Sam has 216 tiles, what is the highest position number he can build? SHOW YOUR WORK!



Rule → $y = 3x + 1$

$$216 = 3x + 1$$

$$\frac{215}{3} = \frac{3x}{3}$$

$$71.67 = x$$

Sam can build position # 71.

6. Solve each of the following equations for the given variable.

(a) $4x = 24$
 $\frac{4x}{4} = \frac{24}{4}$
 $x = 6$

$4 \cdot 6 = 24$

(b) $35 = 7m$
 $\frac{35}{7} = \frac{7m}{7}$
 $m = 5$

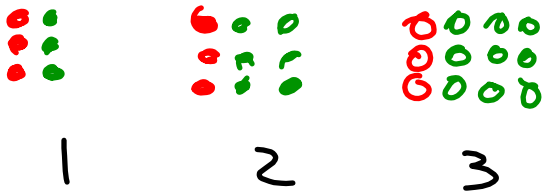
(c) $37 = 6x + 1$
 $37 - 1 = 6x + 1 - 1$
 $36 = 6x$
 $\frac{36}{6} = \frac{6x}{6}$
 $x = 6$

(d) $2x + 5 = 19$
 $2x + 5 - 5 = 19 - 5$
 $2x = 14$
 $\frac{2x}{2} = \frac{14}{2}$
 $x = 7$

$2x + 5$
 $2(7) + 5$
 $14 + 5$
 19

7. Complete the missing representations.

Diagram (Pattern – first 3 positions)



Equation

$y = 3x + 3$

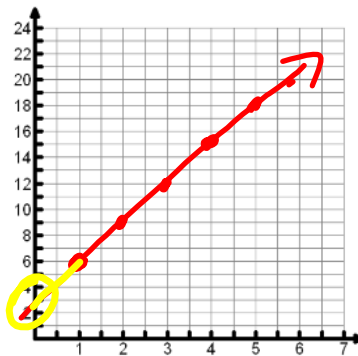
$x \cdot 3 + 3$

Table of Values

x	y
1	6
2	9
3	12
4	15
5	18

Handwritten annotations: A purple bracket on the y-axis from 3 to 15 is labeled '3'. A red arrow points from 1 to 2 on the x-axis and 6 to 9 on the y-axis, labeled '3'. A green arrow points from 3 to 5 on the x-axis and 12 to 18 on the y-axis, labeled '3'.

Graph



Check one: Direct Variation Partial Variation

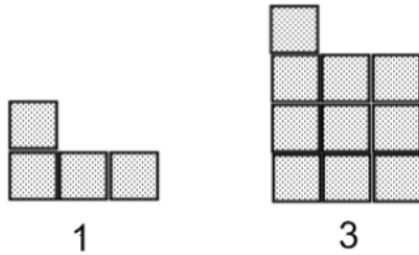
How do you know?

because there is a constant

8. Examine the patterns shown below.

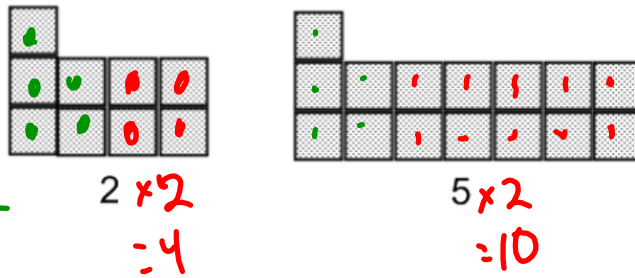
How many more tiles would Courtney need than Tim to build position 78?

Courtney
Rule
 $y = 3x + 1$



Pos 78
 $3(78) + 1 = 235$

Tim
Rule
 $y = 2x + 5$



Pos 78
 $2(78) + 5 = 161$

$235 - 161 = 74$

9. Determine the length of the missing side, showing all steps:

(a)

$a^2 + b^2 = c^2$
 $60^2 + 11^2 = c^2$
 $3600 + 121 = c^2$
 $\sqrt{3721} = \sqrt{c^2}$
 $61 = c$

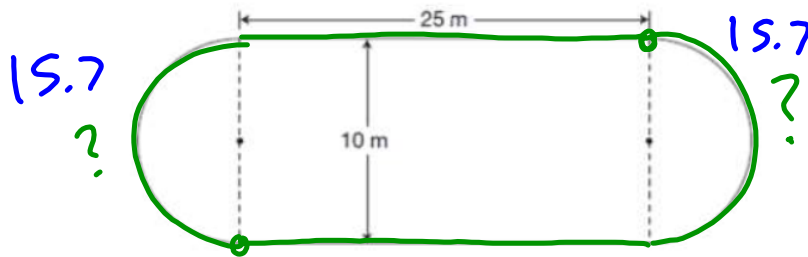
(b)

$20.5^2 = 420.25$
 $10^2 = 100$
 $420.25 - 100 = 320.25$
 17.9

10.

Building an Ice Rink

Jake builds an ice rink as shown below.



$$C = \pi \cdot d$$

$$= \pi (10)$$

$$= 31.4$$

Determine the perimeter of the rink.

Show your work.

$$25 + 25 + 31.4$$

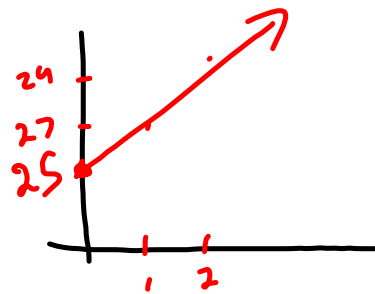
$$= 81.4 \text{ m}$$

11. Jason owns a yard maintenance company. In the spring, he will come to your house and plant flowers. He charges a flat rate of \$25 and then \$2/flower.

(a) Which equation(s) represent this scenario?

- i) $C = 25 + 2f$
- ii) $C = 2 + 25f$
- iii) $C = 25f + 2$
- iv) $C = 2f + 25$

(b) What will the graph of the relationship between cost and the number of flowers planted look like?



(c) If Jason planted 12 flowers what would the cost be?

$$12 \times 2 = 24$$

$$24 + 25 = 49$$

(d) If Jason charged a customer \$62, how many flowers did he plant?

$$62 - 25$$

$$= 37$$

$$\underline{\quad}$$

$$2$$

$$= 18.5$$

