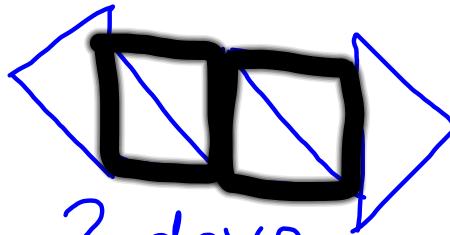


1 day old

4 triangles

day 1

1 sq.
sq.

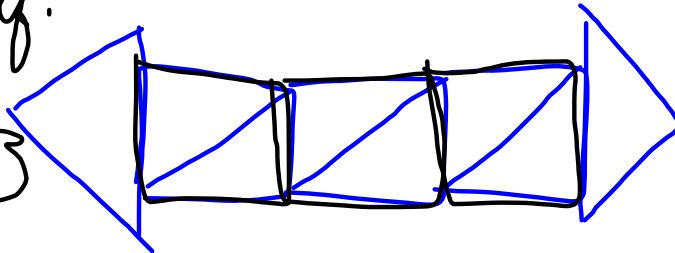


2 days old

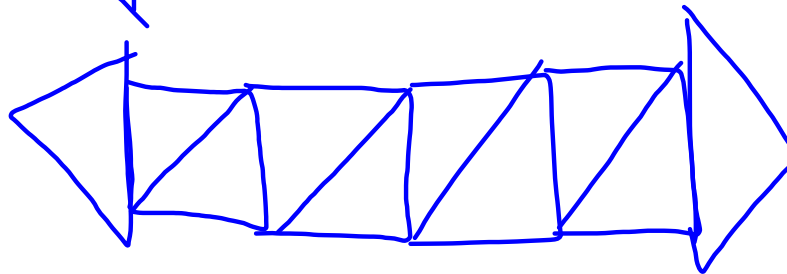
6 triangles

2 sq. = 2/

3 sq. on day 3



8 triangles



10 triangles

| Age of worm (days) | | # of triangles | |
|--------------------|-----|----------------|------------------|
| Brady | 1 2 | 3 4 | |
| | 2 3 | 4 5 6 | |
| | 3 4 | 5 6 7 8 | |
| | 4 | 10 | 16 18 |
| | 7 | 2 | 50 60 |
| | 20 | | |

$20 + 1 = 21$ → #s in between the day & # of Δs
 $21 + 1 = 22$
 $20 + 22 = 42$

$(n+1)(A+1) = B + n = C$

| | Stage: Age of worms in days | | # of Δ | |
|--------------|--------------------------------|-----|---------------|----|
| Austin w. | 2 | | 3 | 4 |
| | 23 | 4 | 5 | 6 |
| | 34 | 56 | 7 | 8 |
| | 45 | 678 | 9 | 10 |

$(n+1)2$
 $(12+1)2$
 $13 \cdot 2$
 $(20+1)2 = 42$

| Stage: Age of worms in days | # of Δ |
|-----------------------------|---------------|
| 1 | 4 |
| 2 | 6 |
| 3 | 8 |
| 4 | 10 |

| Stage: Age of worms in days | | # of Δ |
|-----------------------------|---------|---------------|
| Kari | $+2=3$ | 4 |
| | $2+2=4$ | 6 |
| | $3+2=5$ | 8 |
| | $4+2=6$ | 10 |

$$n+2=K$$

$$\textcircled{17}+2=\textcircled{19} = 36$$

$$n+K =$$

$$\boxed{\begin{matrix} n+2=K \\ n+K \end{matrix}}$$

$$\begin{matrix} n=12 \\ K=14 \end{matrix}$$

$$12+2=14$$

$$12+14 =$$

$$26$$

$$n=20 \quad K=22$$

$$20+2=22$$

$$20+22 =$$

$$42$$

| Stage: Age of worms in days | # of Δ |
|-----------------------------|---------------|
| Avery 1 | 4 |
| 2 | 6 |
| 3 | 8 |
| 4 | 10 |

$4 \div 2 = 2$
 $\times 4 \div 2 = 2$
 $5 \div 2 = 2$
 $5 \div 2 = 2$

$n \cdot 2 = \# \text{ of } \Delta \text{'s for previous stage}$
 $(n \cdot 2) + 2 = \# \text{ of } \Delta \text{'s for current stage}$

$(12 \cdot 2) + 2 = 26$
 $24 + 2 = 26$

$(20 \cdot 2) + 2 = 42$
 $40 + 2 = 42$

| Abigail | Stage: Age of worms in days | # of Δ |
|---------|-----------------------------|--------------------|
| | 1 | 4 |
| | 2 | 6 |
| | 3 | 8 |
| | 4 | 10 |
| | | $(3 \times 2) 6 +$ |
| | | 16 |

3 #
btwn

+ 2
@ each
stage

83

168

83
+ 85

168

Task: discover how
many triangles
are needed to construct
a "worm" that is 20
days old.

| | Age of worm (Days) | # of Δ 's |
|---|-----------------------|------------------|
| Danielle | 1 + 3 | 4 |
| | 2 + 4 | 6 |
| | 3 + 5 | 8 |
| $\begin{matrix} 25 \\ +25 \\ \hline 40 \end{matrix}$ | 4 + 6 | 10 |
| $\begin{matrix} 123 \\ -4 \\ \hline 119 \end{matrix}$ | 23 + 25 | 48 |
| | 47 + 49 | 96 |

Age of worm
in days

of
Triangles

N

math sentence

$$4 + 7 = 11$$

Our rule =

At each day we have the same # of squares in btwn the 2 triangles on the end, as there are days. So

If it's day 4 there are 4 \square 's in between & 2 triangles @ the end. There are 10 Δ 's in all.

* for each \square it takes

2 Δ 's

$$2n + 2$$

Has to be doubled
b/c it takes
2 Δ 's = 1 \square

of days
o/a

2 Δ 's @
the end

$$2^n \quad n = 4$$

$$2^n = 8$$

$$4^n = 24$$

$$n = 6$$