

ARCHES IN OUR CITY

(SEMICIRCULAR ARCHES)



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ARCHES IN OUR CITY

1º PHASE. TO OBTAIN PHOTOS.

- Which camera did we use to take our photos?

We use a mobile phone, specially iPhone 5s (about 5 mp), we preferred this one because it has a really good image quality to obtain better results.

Where did we obtain the photos?

We chose a little area in our city, Pontevedra, called “La zona vieja” this is a beautiful part of the city composed by a group of old houses, restaurants, streets, etc. that now a day are protected and restored by our town hall.

We also used a laser to get the measures, that were at top of buildings or church, in this way it was easier and faster to get them.

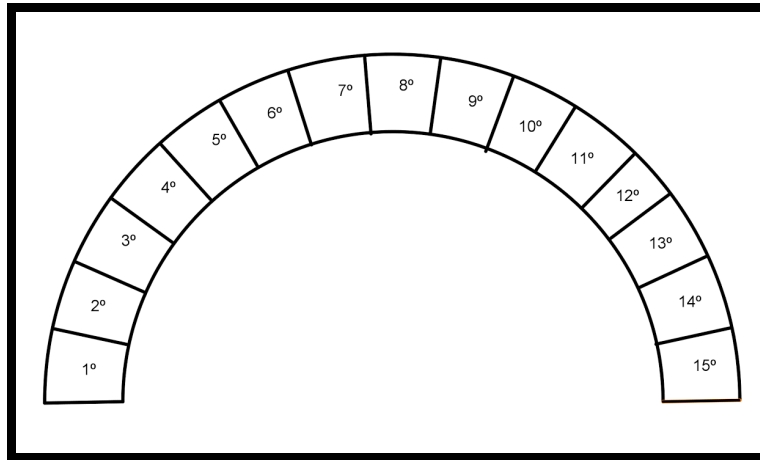


- PROBLEMS:

We had some problems in this part because some of the photos that we took had a lot of clarity so we couldn't see clearly the voussoirs, to solve this problem we used a photo editor called VSCO.

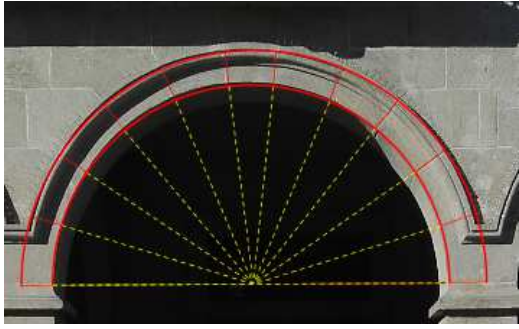
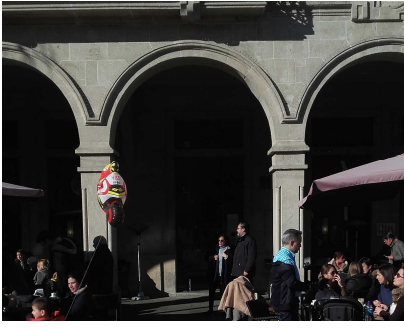
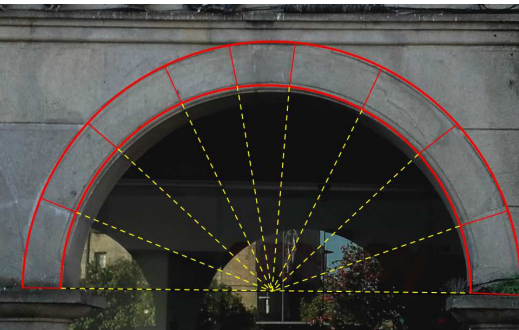
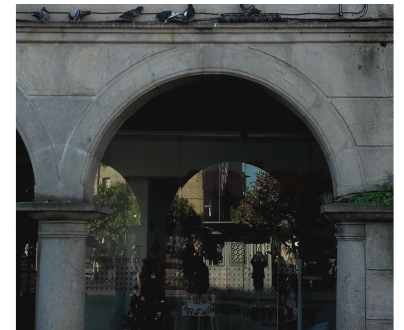
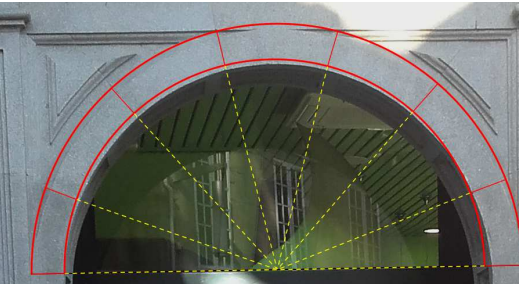

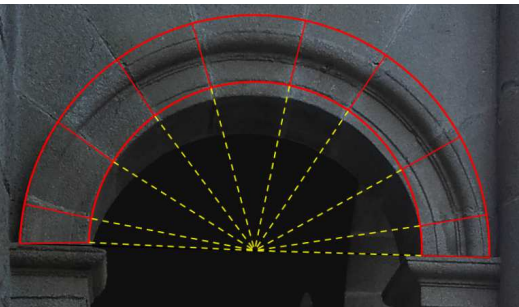

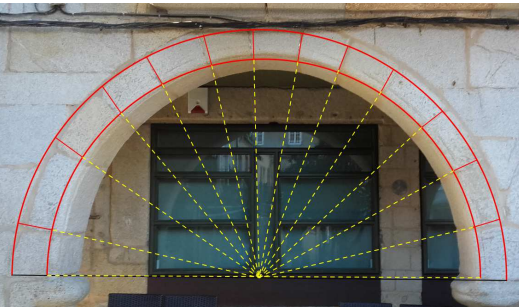

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2º PHASE. TO ANALYZE AND OBTAIN CONCLUSIONS.

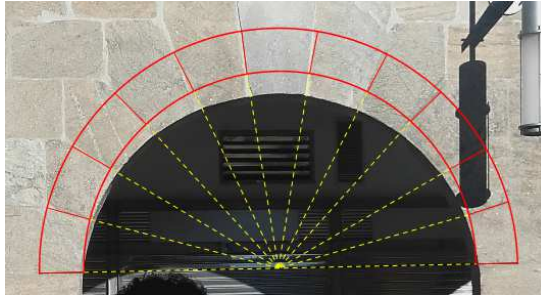

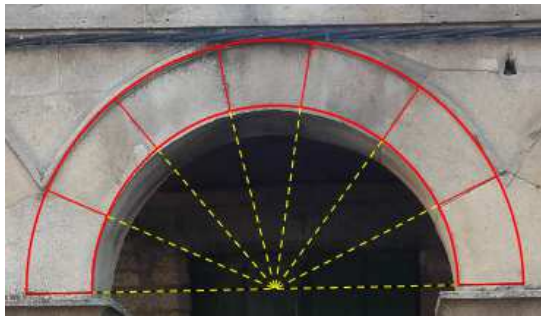



Nº	ARCH	PHOTO	VOUSSOIRS	Angle of each voussoir
1º			9	<ol style="list-style-type: none"> 1. 19,84º 2. 18,81º 3. 18,81º 4. 20,32º 5. 20,41º 6. 20,8º 7. 20,46º 8. 20,74º 9. 19,76º
2º			9	<ol style="list-style-type: none"> 1. 21,16º 2. 19,42º 3. 20,38º 4. 21,94º 5. 20,57º 6. 19,85º 7. 19,27º 8. 18,44º 9. 19º
3º			9	<ol style="list-style-type: none"> 1. 26,96º 2. 19,2º 3. 28,01º 4. 18º 5. 19,06º 6. 18,07º 7. 18,06º 8. 17,6º 9. 27,67º

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4°			<p>11</p>	<ol style="list-style-type: none"> 1. 16,57° 2. 11,68° 3. 16,17° 4. 17,17° 5. 15,94° 6. 12,84° 7. 16,86° 8. 15,43° 9. 19,24° 10. 17,39° 11. 17,88°
5°			<p>9</p>	<ol style="list-style-type: none"> 1. 21,45° 2. 20,75° 3. 21,61° 4. 16,04° 5. 14,48° 6. 21,59° 7. 20,46° 8. 23,93° 9. 19,62°
6°			<p>7</p>	<ol style="list-style-type: none"> 1. 20,29° 2. 28,22° 3. 28,73° 4. 28,31° 5. 26,81° 6. 27,61° 7. 20,69°
7°			<p>9</p>	<ol style="list-style-type: none"> 1. 9,71° 2. 21,03° 3. 21,26° 4. 21,01° 5. 27,03° 6. 21,92° 7. 20,23° 8. 20,25° 9. 10,1°
8°			<p>13</p>	<ol style="list-style-type: none"> 1. 12,35° 2. 21,25° 3. 15,69° 4. 13,41° 5. 14,01° 6. 11,24° 7. 11,58° 8. 10,86° 9. 12,28°

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				<ul style="list-style-type: none"> 10. 14° 11. $13,96^{\circ}$ 12. $16,5^{\circ}$ 13. $13,55^{\circ}$
9°			11	<ul style="list-style-type: none"> 1. $14,76^{\circ}$ 2. $13,99^{\circ}$ 3. $17,56^{\circ}$ 4. $15,81^{\circ}$ 5. $17,35^{\circ}$ 6. $18,85^{\circ}$ 7. $16,83^{\circ}$ 8. $16,92^{\circ}$ 9. $16,28^{\circ}$ 10. $15,91^{\circ}$ 11. $15,74^{\circ}$
10°			7	<ul style="list-style-type: none"> 1. 25,88 2. 26,95 3. 27,32 4. 21,97 5. 25,85 6. 25,72 7. 24,31

ARCHES IN OUR CITY

- Typical number of voussoirs in Pontevedra:

$$x = \frac{\sum_{i=1}^{10} x_i}{10} = 9.4$$

- So we decided that the most typical number of voussoirs in our city is 9 voussoirs in each arch.

- More usual angles in arches with **nine voussoirs**.

→ Arch n°1:

$x=19,99^\circ$ each voussoir

→ Arch n°2:

$x=19,99^\circ$ each voussoir

→ Arch n°3:

$x=21,4^\circ$ each voussoir

→ Arch n°5:

$x=19,69^\circ$ each voussoir

- Total media=20,26° each voussoir $\approx 20^\circ$ each voussoir ($20^\circ \cdot 9 = 180^\circ$)

