



Re: Orbit of the earth & intelligent design

|>|> right--by accident?"

(<http://www.discoverymagazine.com/articles/d1997/>

|>|> d9711e.htm)

|>|>

|>|> Obviously, the logic alone is faulty, as the author (Bert Thompson,

|>|> Ph.D., who wrote similar things in various other places) does not

seem

|>|> to understand that one-tenth of an inch is smaller than one-ninth of

|>|> an inch. And what is a "straight line" in this context anyway? But

|>|> more importantly, can anyone comment or direct me to resources about

|>|> the actual numbers cited?

|>|>

|>|>When a theologian starts playing with numbers to present his

|>|>arguments you can be sure his degree isn't mathematical. Even

|>|>theoretical physicists are failed mathematicians. However,

|>|>by approximating Earth's orbit to a circle and dividing it up

|>|>into straight line segments so as to be a polygon, one can calculate

|>|>the distance at the centre of a chord to the locus. What that

|>|>has to do with "design" only Bert Thompson, Ph.D., (theology)

|>|>would hallucinate.

|>|>

|>|>Let's have a go for the fun of it.

|>|>

|>|>Mean radius: 93,000,000 miles

|>|>

|>|>Circumference:  $2\pi * \text{radius} = 584336233.56770154235405166928999$  miles

|>|>

|>|>Divide by 18 miles: a 32,463,124-sided polygon.

|>|>

|>|>Angle between vertices:

|>|>  $2\pi/32,463,124 = 1.9354838709677419354838709677419e-7$  radians

|>|>

|>|>Mid-point between vertices is half that:

|>|>  $9.6774193548387096774193548387097e-8$  radians.

|>|>

|>|>Cosine: 0.9999999999999531737773152966026

|>|>

|>|>Multiply by 93,000,000 miles = 92999999.999999564516129032258404 miles

|>|>

|>|>Difference between chord and locus:

|>|>  $4.3548387096774159561612560164185e-7$  miles

|>|>

|>|> =  $2.5258064516129012545735284895228e-4$  feet

|>|> = 0.0030309677419354815054882341874273 inches

|>|>

|>|>His 1/9 inch is a gross exaggeration, over 18 miles the Earth

|>|>deviates from a straight line by 3 thousandths of an inch, not

|>|>111 thousandths as claimed.

|>|>

|>|>The resource you need is on your calculator.

|>|>If you wish to be more accurate:

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|> > [http://www.astro-tom.com/getting\\_started/earth-sun\\_distance.htm](http://www.astro-tom.com/getting_started/earth-sun_distance.htm)  
|>  
|>  
|> Simpler to use Pythagoras, I would have thought.  
|>  
|> I did. Cosine is adjacent/hypotenuse of a right triangle.  
|>  
|>  
|> If the Earth continues in a straight line for 18 miles,  
|>  
|> In hypothetical sentences introduced by 'if' and referring to  
|> past time, where conditions are to be deemed 'unfulfilled',  
|> the verb will regularly be found in the pluperfect subjunctive,  
|> in both protasis and apodosis.  
|> -- Donet, "Principles of Elementary Latin Syntax"  
|>  
|> It doesn't, it follows the locus of an ellipse which I approximated  
|> to a circle. Actually it doesn't do that either, only the barycentre  
|> of the Earth-Moon system does.  
|> Cranks are always coming up with 'if' and ignoring facts.  
|>  
|> then its  
|> distance from the Sun will be the hypotenuse of a triangle whose other  
|> sides are 93,000,000 miles and 18 miles. So the distance is the square  
|> root of  $93,000,000^2$  and  $18^2$  ie. the square root of  
|> 8,649,000,000,000,324 which is 93,000,000.00000174193. So the increase  
|> in distance is 00000174193 miles and multiplying by 63,360 to convert  
|> to inches, we have 0.1103, which is pretty close to 1/9th.  
|>  
|> It's away from the straight line for nine miles, back toward the straight  
|> line for the next nine miles at runs parallel at the mid point. Try  
again.  
|>  
|>  
|>  
| Thanks for labelling me a crank, but I'll try again anyway. What I  
| meant was that if we draw a tangent to the Earth's orbit and look at a  
| point 18 miles from the point of contact with the orbit, we will find  
| that a radius of the Earth's orbit, extended by 1/9th inch will reach  
| the tangent..This is what I think the OP meant and the fact that my  
| answer agrees with his is reasonable evidence for that assumption. You  
| are assuming an 18 mile tangent with the Earth's orbit touching the  
| tangent at mid-point, which I'll agree is a possible interpretation,  
| but I don't think it's the correct one.  
|  
| Your answer would therefore have been 1/4 of mine if it wasn't for the  
| fact that you have used a figure of 580 feet in a mile instead of  
| 5280.  
|  
| Try again.

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Ok, let's have another go for the fun of it, this time with Excel.

Mean radius: 93,000,000 miles

Check.

Circumference:

$$2\pi * \text{radius} = 584336233.6$$

miles

Check.

Divide by 18 miles: a 32,463,124-sided polygon.

Excel: 32463124.09

Check.

Angle between vertices:

$$2\pi/32,463,124 = 1.93548\text{E}-07 \text{ radians}$$

Check.

Mid-point between vertices is half that:

$$9.67742\text{E}-08 \text{ radians}$$

Check.

$$|>|>\text{Cosine: } 0.9999999999999999531737773152966026$$

Excel: 1 (rounded up on display)

$$|>|>\text{Multiply by } 93,000,000 \text{ miles} = 92999999.999999564516129032258404 \text{ miles}$$

radius \* cos

Excel: 93000000 (rounded up on display)

Difference between chord and locus:

$$4.3548387096774159561612560164185\text{e}-7 \text{ miles}$$

Excel: 4.32134E-07

THAT'S INTERESTING!

Recheck Windows calculator:

$$4.3548387096774159561612558145466\text{e}-7$$

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Excel miles to inches :  
0.02737999

~10 times bigger, but not 0.11, it is ~1/4 your value as you stated.

Calculator miles to inches:  
0.027592258064516107498237718120024

Difference between Windows calculator (Microsoft)  
version 5.1 (Build 2600.xpsp\_sp2\_qfe.0707227-2300 : Service Pack 2)

and Windows Excel 2003 (11.5612.5606) (Microsoft)  
3.35E-09

Excel Pi =  
3.141592653589790000000000000000

Calculator Pi =  
3.1415926535897932384626433832795

For a short tangent, the distance from the end of the tangent to the circle will vary as the square of the length of the tangent, so my doubling the length of the tangent will give me a result 4 times yours.

At least we agree on the calculation, if not the definition of the problem.

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