Earth Science Regents
Star Trails Practice

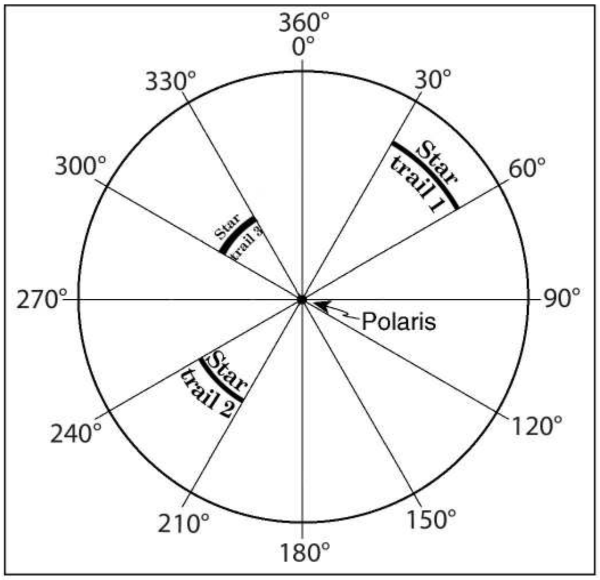
2013 by Z. Miller. Adopted from August 2004 Earth Science Regents Exam, Question #26

Name ____________________

Period ____ Date _________

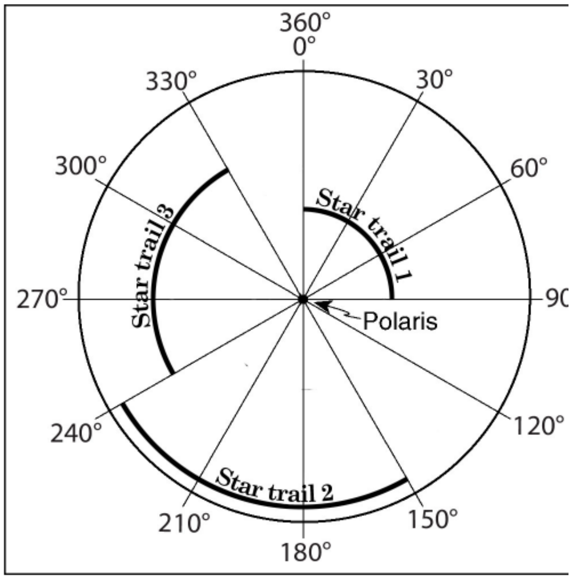
Base your answers to the following questions on a camera that was placed outside at night and pointed directly at Polaris and several other stars for four nights. The lens was kept open and a time-exposure photograph was taken each night. The diagrams below represent the photographs of Polaris and star trails, with an angular protractor to measure apparent motion each night.

NIGHT 1 STAR TRAILS



WORK:

NIGHT 2 STAR TRAILS



WORK:

1) In the space provided calculate the amount of time it took to take each photograph.

2) Explain how you determined your answers to the above questions:

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3) Write a relationship sentence describing how the length of star of trails is related to the time-exposure of a photograph:

As...____

____

____

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4) Complete the star trails relationship graph below: