**Math 1316 – Trigonometry** ***Exam* 4 *Review***

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1. Find the lengths of the missing sides and angles for each triangle:
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. A ship sailing parallel to shore sights a lighthouse at an angle of 10° from its direction of travel. After traveling 5 miles farther, the angle is 23°. At that time, how far is the ship from the lighthouse?
11. The diagonals of a parallelogram are 26.8 meters and 39.4 meters. If they meet at an angle of 134.5°, find the length of the shorter side of the parallelogram.
12. Let . Find the following

*a*) 

*b*) 

*c*) 

*d*) 

*e*) 

*f*) Angle between 

*g*) Angle between 

1. Write the complex in trigonometric form
2.  *b*)  *c*)  *d*)  *e*)  *f*) 
3. Find and leave in polar form
4.  *b*)  *c*) 

*d*)  *e*)  *f*) 

1. Convert the polar coordinates of a point to the rectangular coordinates
2.  *b*)  *c*)  *d*) 
3. Convert the rectangular coordinates of a point to the polar coordinates
4.  *b*)  *c*)  *d*) 
5. Convert each equation from polar to rectangular coordinates
6.  *b*)  *c*) 

*d*)  *e*)  *f*) 

*g*)  *h*)  *i*) 

*j*)  *k*)  l) 

1. Convert each equation from rectangular to polar coordinates

*a*)  *b*)  *c*) 

*d*)  *e*)  *f*) 

1. Find

*a*)  *b*)  *c*) 

*d*)  *e*)  *f*) 

***Answers***

1. *a*) 

*b*) no triangle possible

*c*) 

*d*) Triangle # 1: ; triangle #2: 

*e*) 

*f*) 

*g*) 

*h*) 

1. 3.86 miles
2. 14.1 meters
3. *a*)  *b*)  *c*)  *d*)  *e*) 

*f*)  *g*) 

1. ***a***)  *b*)  *c*)  *d*)  *e*)  *f*) 
2. ***a***)  *b*)  *c*)  *d*)  *e*)  *f*) 
3. *a*)  *b*)  *c*)  *d*) 
4. *a*)  *b*)  *c*)  *d*) 
5. *a*)  *b*)  *c*)  *d*) 

*e*)  *f*)  *g*)  *h*) 

*i*)  *j*)  *k*)  *l*) 

1. *a*)  *b*)  *c*)  *d*) 

*e*)  *f*) 

1. *a*)  *b*)  *c*)  *d*) 

*e*) 

*f*) 