**Final exam**

Choose the correct answer

1. If and thenis equal to

(a) (b) (c) (d)

1. is equal to

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(a) (b) (c) (d)

1. If and thenis equal to

(a) (b) (c) (d)

1. The rate of change of at is equal to

(a) (b) (c) (d) 0

1. Suppose a boat leaves port, travels 10 miles north, turns 30 degrees west, and travels another 8 miles. How far from port is the boat?

(a) mi (b) (c) (d)

1. If then is equal to

(a) (b) (c) (d)

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(a) (b) (c) (d)

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(a) (b) (c) (d)

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1. In : then is equal to

(a) (b) (c) (d)

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(a) (b) (c) no solution (d)

1. the values of *a* in the equation is equal to

(a) (b) (c) (d)

1. Which equation is equivalent to ?

(a) (b) (c) (d)

1. A triangular swimming pool measures 40 feet on one side and 65 feet on another side. These sides form an angle that measures 50°, then the length of the third side (to the nearest tenth) is equal to

(a) (b) (c) (d)

**Fill in the blanks and true false**

1. Using De Moivre’s theorem. The value of the for a complex number is
2. One of the cube roots of 8 for in rectangular form is equal to
3. The rate of change of at is equal to
4. If , then is equal to
5. The polar form of is
6. If then is equal to
7. , then is equal to
8. is equal to \_\_\_\_\_\_\_\_\_\_\_\_
9. The range of possible values of an angle such that and is \_\_\_\_\_\_
10. If then Maclaurin series expansion for when is
11. If then the first three terms of Maclaurin series expansion for is