

Accuplacer – College-Level Mathematics

Mixed Practice Module #3

For each of the questions below, choose the best answer from the five choices given. Use scratch paper as needed.

1. Solve for  $x$ :  $x^2 - 3x - 2 = 0$ ?

a.  $\frac{-3 \pm \sqrt{-17}}{2}$

b.  $\frac{-3 \pm \sqrt{-1}}{2}$

c.  $\frac{3 \pm \sqrt{-17}}{2}$

d.  $\frac{3 \pm \sqrt{-1}}{2}$

e.  $\frac{3 \pm \sqrt{17}}{2}$

$a=1$   $b=-3$   $c=-2$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(-3) \pm \sqrt{(-3)^2 - 4(1)(-2)}}{2(1)}$$

$$x = \frac{3 \pm \sqrt{9+8}}{2}$$

$$x = \frac{3 \pm \sqrt{17}}{2}$$

2.  $\sin 120^\circ$

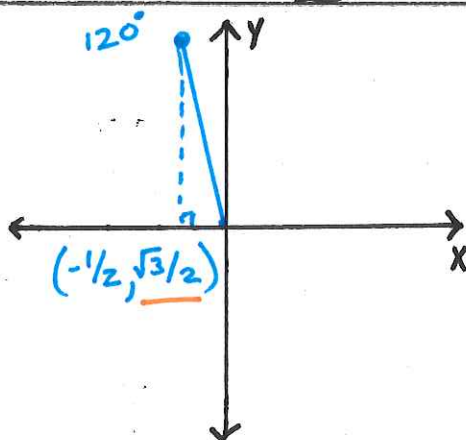
a.  $\frac{-\sqrt{3}}{2}$

b.  $-\frac{1}{2}$

c. 0

d.  $\frac{1}{2}$

e.  $\frac{\sqrt{3}}{2}$



$(x, y)$   
 $(\cos, \sin)$

3.  $g(x) = 2x - 5$  and  $f(x) = -3x + 4$ ;  $g(f(x)) =$

a.  $-6x + 3$

b.  $-6x + 19$

c.  $9x - 8$

d.  $4x - 15$

e.  $-x - 1$

$$2(-3x + 4) - 5$$

$$-6x + 8 - 5$$

$$-6x + 3$$

4.  $2^{2 \log_2 3} = 2^{\log_2 3^2} = 3^2 = 9$

a. 2

b. 3

c. 4

d. 6

e. 9

5.  $\frac{\sqrt{a}}{\sqrt{a}+\sqrt{b}} = \frac{\sqrt{a}}{\sqrt{a}+\sqrt{b}} \cdot \frac{(\sqrt{a}-\sqrt{b})}{(\sqrt{a}-\sqrt{b})} = \frac{\sqrt{a^2} - \sqrt{ab}}{\sqrt{a^2} - \sqrt{ab} + \sqrt{ab} - \sqrt{b^2}}$

a.  $\frac{a+\sqrt{ab}}{a+b}$

b.  $\frac{a+ab}{a+b}$

c.  $\frac{a-\sqrt{ab}}{a-b}$

d.  $\frac{a-ab}{a-b}$

e.  $\frac{1}{\sqrt{b}}$

$\frac{a-\sqrt{ab}}{a-b}$