

# CS 115 Sample Midterm Exam #1 Key

## 1. Variable Mystery

```
x = 10.0
y = 2.0
z = 20
```

## 2. Expressions

```
10
2.9
24
13
26.0
3.0
```

## 3. If/Else Simulation

```
14 - 17
7 - 5
12 - 10
3 - 8
```

## 4. While Loop Mystery

```
1 2
1 5
2 3
3 3
```

## 5. Boolean Expressions

```
False
True
False
True
True
True
False
True
True
True
```

## 6. Programming

```
def grades():
    quiz1 = int(input("Quiz 1 grade? "))
    quiz2 = int(input("Quiz 2 grade?"))
```

```

quiz3 = int(input("Quiz 3 grade?"))
average_grade = (quiz1 + quiz2 + quiz3) / 30 * 10
print("Average quiz grade: " + str(average_grade))
if quiz3 > quiz2 and quiz3 > quiz1:
    print("Best quiz score: Quiz 3.")
elif quiz2 > quiz1 and quiz2 >= quiz3:
    print("Best quiz score: Quiz 2.")
else:
    print("Best quiz score: Quiz 1.")

```

## 7. Programming

```

def target():
    panel = drawing_panel(250, 250, "yellow")
    panel.fill_oval(x, y, 100, 100, "red")
    panel.fill_oval(x + 20, y + 20, 60, 60, "white")
    panel.fill_oval(x + 40, y + 40, 20, 20, "red")

```

## 8. Programming

```

def quadrant():
    x = float(input("x? "))
    y = float(input("y? "))
    if x > 0 and y > 0:
        print("Point (" + str(x) + ", " + str(y) + ") is in quadrant 1")
    elif x < 0 and y > 0:
        print("Point (" + str(x) + ", " + str(y) + ") is in quadrant 2")
    elif x < 0 and y < 0:
        print("Point (" + str(x) + ", " + str(y) + ") is in quadrant 3")
    elif x > 0 and y < 0:
        print("Point (" + str(x) + ", " + str(y) + ") is in quadrant 4")
    else # at least one equals 0
        print("Point (" + str(x) + ", " + str(y) + ") is in quadrant 0")

```