

~~Problems you can ignore:~~

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Fall 2016

#1, #6

Winter 2013

#2

Winter 2010

#3, #6

```
String name = "Dustin";
```

```
println("Hello"); // prints Hello to console
```

```
println(name); // prints Dustin to console
```

```
println("name"); // prints name to console
```

```
name = "Something else";
```

```
String first = "Dustin";  
String last = "Adams";
```

```
println(first + last); // prints DustinAdams  
                        // to console  
                        ↳ concatenation  
                        (attaches two String variables)
```

```
int x = 10;
```

```
println(first + x);  
println(first + x); // prints Dustin10
```

```
println(first + " buys " + x + " apples.");
```

↳ // prints: Dustin buys 10 apples.

```
String st = first + " buys " + x + " apples.";
```

st
Dustin buys 10 apples.

```
println(st);
```


must match data type

```
int square(int x) {  
    return x + x;  
}
```

```
void setup() {
```

```
    int a = square(3); // a is 9  
    println(a);  
}
```

```
float mystery(int x) {  
    return x / 2.0;  
}
```

```
int square(int x) { //  $x^2$   
    return x + x;  
}
```

```
void setup() {
```

```
    println(square(3)); // prints 9
```

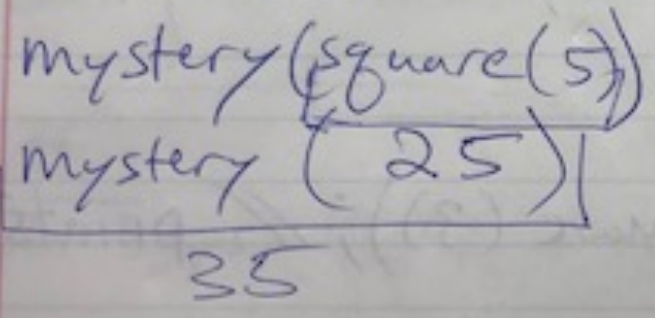
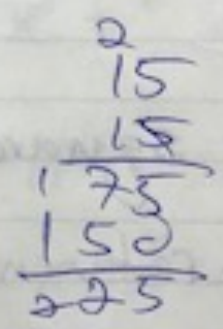
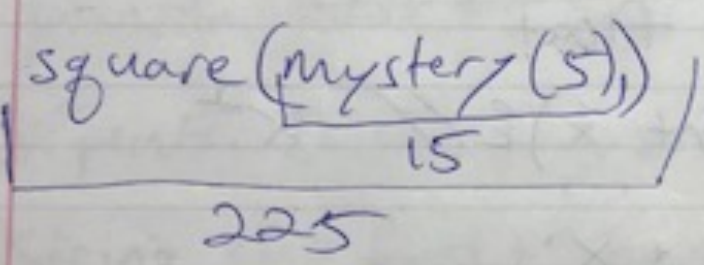
```
    Known a composite function-call  
    println(square(square(3)));
```

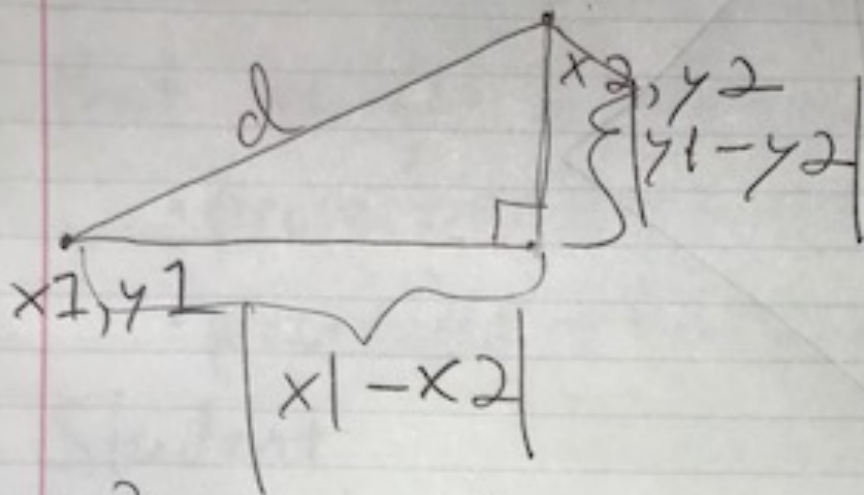
81

```

int square (int x) {
    return x * x;
}
int mystery (int x) {
    return x + 10;
}
void setup () {
    println (square (mystery (5)));
    println (mystery (square (5)));
}

```



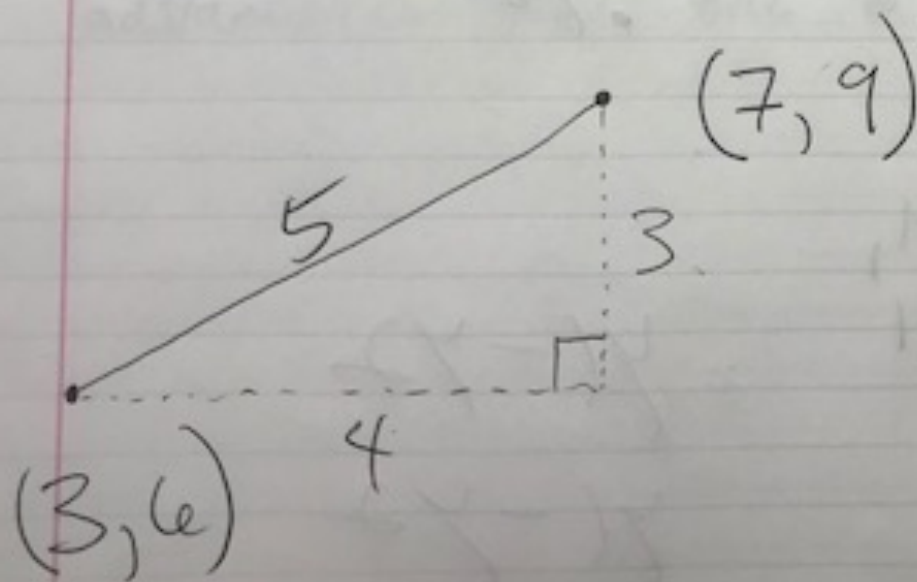


$$d^2 = (x_1 - x_2)^2 + (y_1 - y_2)^2$$

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

$$d = \text{sgrt}((x_1 - x_2)^2 + (y_1 - y_2)^2)$$

$$d = \text{sgrt}((x_1 - x_2) * (x_1 - x_2) + (y_1 - y_2) * (y_1 - y_2))$$



Class - a definition of a datatype that we get to invent.

- properties - variables
- procedures - functions

Student

ID
Name
College
GPA
Year

} properties

failClass (subtracts .5 from GPA)
advanceYear (add one to year)

} procedures