CN4001/ CD4001
Software Development
Topic 3: Building Blocks
Part 4

(c) Dr Aaron Kans

```java
public class RectangleApp
{
    public static void main (String [ ] args)
    {
        double length, height;

        System.out.println("*** Rectangle App ***");

        length = 7.5;

        height = 10;

        System.out.println("Area of rectangle = " + (length * height ));
    }
}
```
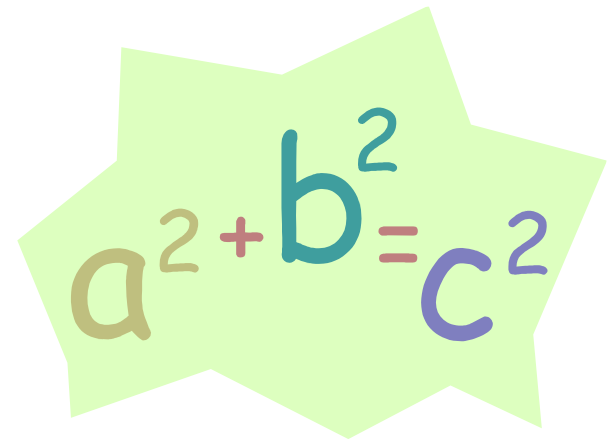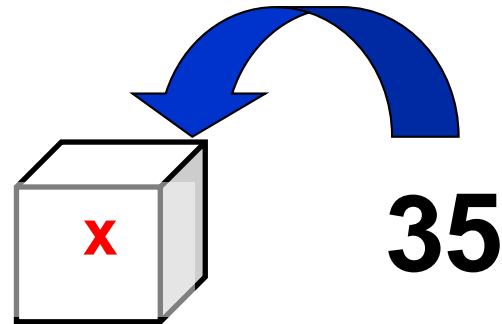
Expressions in Java

$$a^2 + b^2 = c^2$$

```
int x;
x = 10 + 25;
```

x   35

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```
int x, y;
x = 10 + 25;
```

x

35

y

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```
int x, y;
x = 10 + 25;
y = x + 2;
```

x

35

y

37

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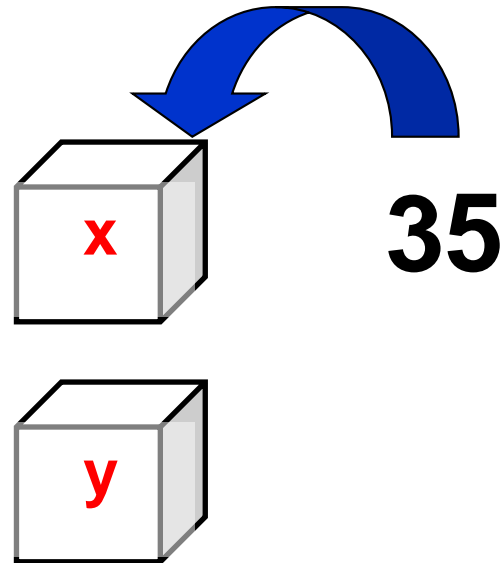
Activity

JAVA

**"What is the
final value of
z?"**

```java
int x, y, z;
x = 5;
y = x + 2;
x = 10;
z = y * x;
```

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Computer Memory

JAVA

x ← 5

y ← 7

z

```
int x, y, z;
x = 5;
y = x + 2;
x = 10;
z = y * x;
```

Computer Memory

x ← 10

y ← 7

z ← 70
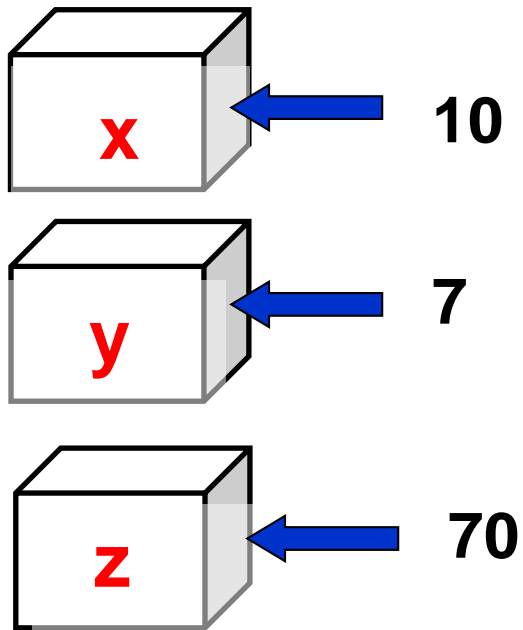
JAVA

```java
int x, y, z;
x = 5;
y = x + 2;
x = 10;
z = y * x;
```
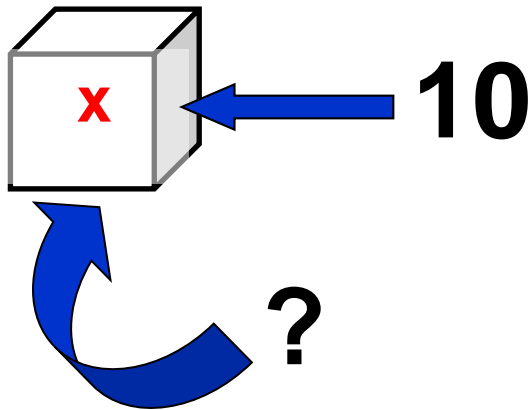
Activity

"What is the value of x here.."

```
int x = 10;
x = x + 1;
```
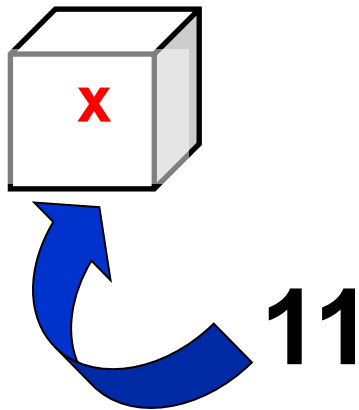
x ← 10

?

$a^2 + b^2 = c^2$

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```
int x = 10;
x = x + 1;
```

x

11

$$a^2 + b^2 = c^2$$

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```
int x = 10;
x++;
```

$$a^2 + b^2 = c^2$$

x

11

```
int x = 10;
x = x - 1;
```

$$a^2 + b^2 = c^2$$

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```
int x = 10;
x = x - 1;
```

x

9

$$a^2 + b^2 = c^2$$

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```
int x = 10;
x--;
```

x

9

$$a^2 + b^2 = c^2$$
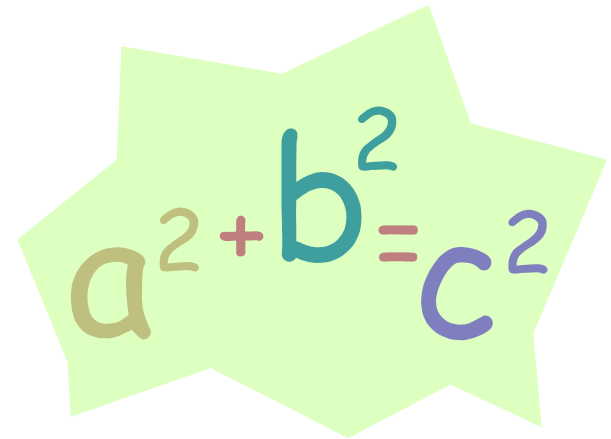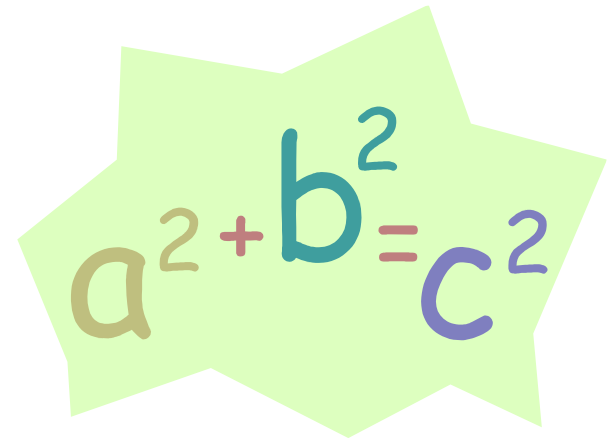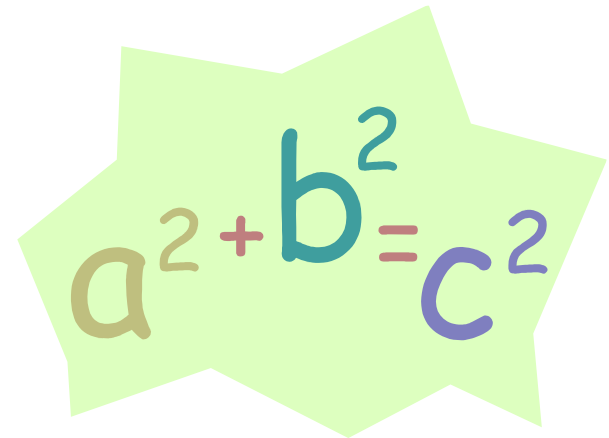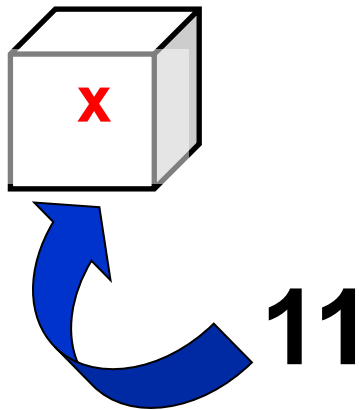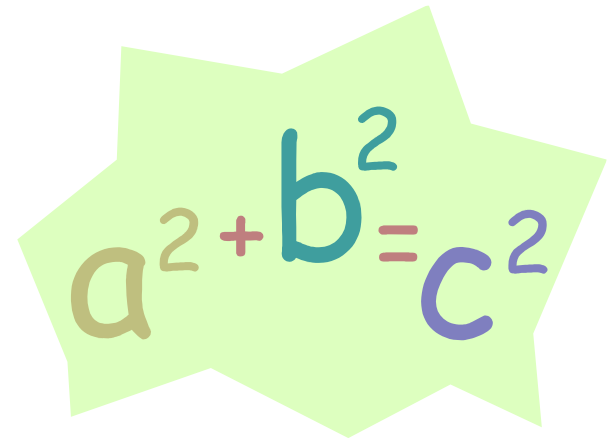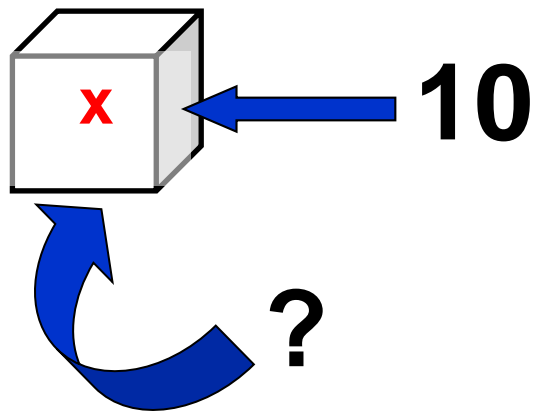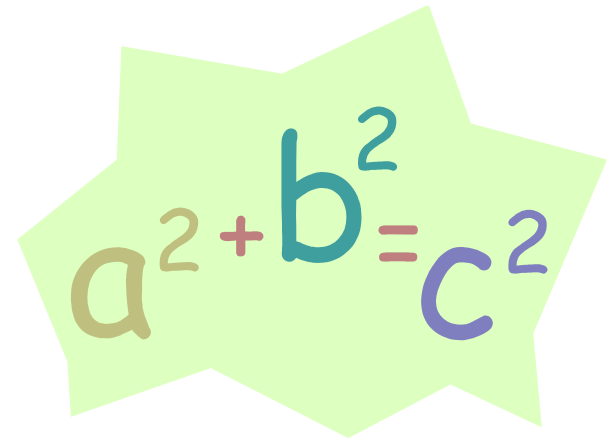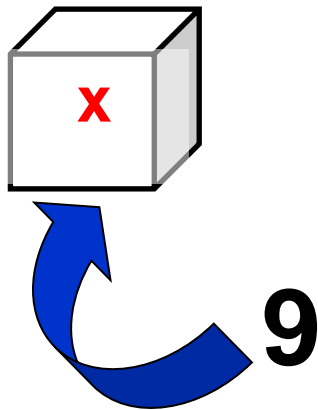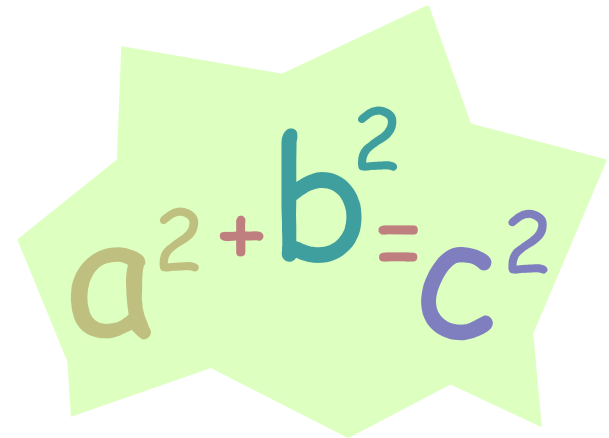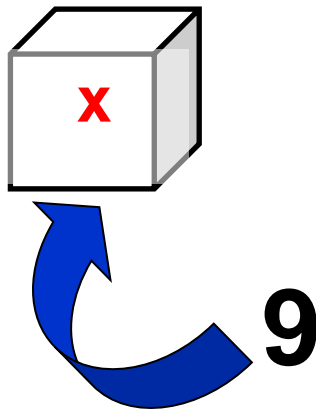
Activity

"Declare a variable to hold the area of the rectangle and use this in your program"

```java
public class RectangleApp
{
    public static void main (String [ ] args)
    {
        double length, height;

        System.out.println("*** Rectangle App ***");

        length = 7.5;
        height = 10;


        System.out.println("Area of rectangle = " + (length * height ));
    }
}
```

```java
public class RectangleApp
{
    public static void main (String [ ] args)
    {
        double length, height, area;

        System.out.println("*** Rectangle App ***");

        length = 7.5;
        height = 10;


        System.out.println("Area of rectangle = " + (length * height ));
    }
}
```

```java
public class RectangleApp
{
    public static void main (String [ ] args)
    {
        double length, height, area;

        System.out.println("*** Rectangle App ***");

        length = 7.5;
        height = 10;
        area = ?
        System.out.println("Area of rectangle = " + (length * height ));
    }
}
```

```java
public class RectangleApp
{
    public static void main (String [ ] args)
    {
        double length, height, area;

        System.out.println("*** Rectangle App ***");

        length = 7.5;
        height = 10;
        area = length * height;
        System.out.println("Area of rectangle = " + (length * height ));
    }
}
```

```java
public class RectangleApp
{
    public static void main (String [ ] args)
    {
        double length, height, area;

        System.out.println("*** Rectangle App ***");

        length = 7.5;
        height = 10;
        area = length * height;
        System.out.println("Area of rectangle = " +  area);
    }
}
```

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```
*** Rectangle App ***

Area of rectangle  = 75.0
```

RUN

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Activity

```
1   public class MyClass
2 ▾ {
3       public static void main(String args[])
4 ▾   {
5         int x=10;
6         int y=25;
7         int z=x+y;
8
9         System.out.println("Sum of x+y = " + z);
10      }
11  }
```

JDOODLE

"What is printed to the screen?