Problem 1

```
x1 = int(input('please enter a number '))
x2 = int(input('please enter another number '))
sum_xs = x1 + x2
if sum_xs < 10:
    x3 = -2
elif sum_xs < 0:
    x3 = -1
elif sum_xs < 10:
    x3 = 0
else:
    x3 = 1
print(x3)

# alternate solution -- think about why you don't need the additional ands!
x1 = int(input('please enter a number '))
x2 = int(input('please enter another number '))
sum_xs = x1 + x2
if sum_xs < 10:
    x3 = -2
elif sum_xs < 0 and sum_xs >= -10:
    x3 = -1
elif sum_xs < 10 and sum_xs >= 0:
    x3 = 0
else:
    x3 = 1
print(x3)

```

Problem 2

```
# here I am using silly variable names to show you can pick whatever you want
eggs = 102.5
xyzq = eggs * eggs
haley = (xyzq * 3) + (eggs**.5)
print('My final answer is: ' + str(haley))

# but you can also use easier ones :)
# both of these do the same!
var1 = 102.5
var2 = var1 * var1
var3 = (var2 * 3) + (var1**.5)
print('My final answer is: ' + str(var3))

```

Problem 3

```
age = int(input("How old are you(if you are younger than 1 year old, enter 0): "))
if 0 < age <= 12:  # if pediatric
  hour = "6 to 8"
  temp = float(input("What is the temperature in celsius: "))
  weight = float(input("What is your weight in kg: "))
  if temp < 39.2:  # low temp: 5mg/kg/dose
    if 5 * weight < 400:
      dose = 5 * weight
    else:
      dose = 400
  else:  # high temp: #10mg/kg/dose
    if 10 * weight < 400:
      dose = 10 * weight
    else:
      dose = 400
  print("You can take the maximum of", dose, "mg of ibuprofen orally every",hour, "hours. You should not take more than 400mg.")
```

```
elif age == 0:  # if infant
  hour = "6 to 8"
  monthAge = input("Are you 6 months or older(Y/N): ")
  if monthAge == "Y" or monthAge == "y":
    temp = float(input("What is the temperature in celsius:"))
    weight = float(input("What is your weight in kg: "))
    if temp < 39.2: # low temp: 5mg/kg/dose
      if 5 * weight < 400:
        dose = 5 * weight
      else:
        dose = 400
    else: # high temp: 10mg/kg/dose
      if 10 * weight < 400:
        dose = 10 * weight
      else:
        dose = 400
    print("You can take the maximum of", dose, "mg of ibuprofen orally every", hour, "hours. You should not take more than 400mg.")
  else:
    print("You cannot take ibuprofen.")
else: # if adult
  print("You can take 200 to 400mg of ibuprofen orally every 4 to 6 hours.")
```

Problem 4

```
speed_ms = 350
correct_trial = True

if not correct_trial:
    use_trial = False
else:
    if speed_ms > 4000 or speed_ms < 200:
        use_trial = False
    else:
        use_trial = True
print(use_trial)
```

Problem 5

```
### Triangles
# The three angles of your triangle-- change these to test your code!
angle_abc = 46
angle_bca = 44
angle_cab = 90

# Initializing the description variable as an empty string
description = ""

# To-do: write if/else statements to modify the variable
# "description" so that it contains the correct description
# of the triangle associated with the given angels
is_triangle = (angle_abc + angle_bca + angle_cab == 180) & (angle_abc > 0) & (angle_bca > 0) & (angle_cab > 0)

if not is_triangle:
  description = "Not a triangle"
elif angle_abc == angle_bca == angle_cab:
  description = "An equilateral triangle"
else:
  if angle_abc != angle_bca & angle_abc != angle_cab & angle_bca != angle_cab:
    description = "A scalene "
  else:
    description = "An isoceles "
  if max(angle_abc, max(angle_bca, angle_cab)) > 90:
    description += "obtuse triangle"
  elif (angle_abc == 90) | (angle_bca == 90) | (angle_cab == 90):
    description += "right triangle"
  else:
    description += "acute triangle"

# Print the final description so you can see if you got it right!
print(description)

```

Problem 6

```python
red_cheeks = True
four_legs = True
small = True
furry = True

if red_cheeks and four_legs and small and furry:
    target = 'a pikachu'
elif red_cheeks and not four_legs and small and not furry:
    target = 'a cockatiel'
elif red_cheeks and four_legs and not small and furry:
    target = 'a hyperactive golden retriever'
elif not red_cheeks and not four_legs and small and furry:
    target = 'a snub-nosed monkey'
elif not red_cheeks and not four_legs and not small:
    target = 'a Brown student'
elif red_cheeks and four_legs and not small:
    target = 'a Brown student'
else:
    target = 'other'
print(target)
```