**SHOE SIZE RIDDLE: Take your shoe size to the nearest integer. Multiply by 5. Add 50. Multiply by 20. If your birthday has happened this year add 1020, if it hasn’t happened this year add 1019. Subtract the year you were born. The answer is your show size and your age (shoe size is first).**

Does this work? If yes, why???

Test: Shoe size is 10.

Multiply by 5 and get 10 \* 5 = 50

Add 50: 50 + 50 = 100

Multiply by 20: 100 \* 20 = 2000

Birthday happened, add 1020: 2000 + 1020 = 3020

Subtract year born: 1973: 3020 – 1973 = 1047

Notice the first two digits are the shoe size, 10, and 47 is how old someone born in 1973 is today if they’ve had a birthday this year.

**SHOE SIZE RIDDLE:**

1. **Take your shoe size to the nearest integer.**
2. **Multiply by 5.**
3. **Add 50.**
4. **Multiply by 20.**
5. **If your birthday has happened this year add 1020, if it hasn’t happened this year add 1019.**
6. **Subtract the year you were born.**

**The answer is your show size and your age (shoe size is first).**

Need information: birth year and shoe size and if birthday happened.

Let’s let Y be the birth year, and s be the shoe size. Assuming birthday happened.

Step 1: We assume s is already the nearest integer (say 4, 5, 10, et cetera)

Step 2: Multiply s by 5 and get 5 \* s = 5 s.

Step 3: Add 50: 5 s goes to 5 s + 50.

Step 4: Multiply by 20: (5 s + 50) \* 20 = 5 s \* 20 + 50 \* 20 = 100 s + 1000

Step 5: If birthday has happened add 1020, else add 1019. Add 1020 as assuming birthday happened. 100 s + 1000 goes to 100 s + 1000 + 1020 = 100 s + 2020. Note 2020 is this year!!!

Step 6: Subtract year born: 100 s + 2020 goes to 100 s + (2020 – Y). Note since we’ve had our birthday this year that 2020 – Y (Y is the year we were born) is our age!

So we get 100 s + our age.

**SHOE SIZE RIDDLE:**

1. **Take your shoe size to the nearest integer.**
2. **Multiply by 5.**
3. **Add 50.**
4. **Multiply by 20.**
5. **If your birthday has happened this year add 1020, if it hasn’t happened this year add 1019.**
6. **Subtract the year you were born.**

**The answer is your show size and your age (shoe size is first).**

Born 1910, shoe size of 10, have had birthday.

Step 1: shoe size to nearest integer is 10

Step 2: multiply by 5: 10\*5 = 50

Step 3: add 50: 50 + 50 = 100.

Step 4: multiply by 20: 100 \* 20 = 2000.

Step 5: add 1020: 2000 + 1020 = 3020.

Step 6: subtract 1910: 3020 – 1910 = 1110.

So not 10 years old with a shoe size of 11

Not a shoe size of 1 and 110 years old!

**SHOE SIZE RIDDLE:**

1. **Take your shoe size to the nearest integer.**
2. **Multiply by 5.**
3. **Add 50.**
4. **Multiply by 20.**
5. **If your birthday has happened this year add 1020, if it hasn’t happened this year add 1019.**
6. **Subtract the year you were born.**

**The answer is your show size and your age (shoe size is first).**

Born 2015, shoe size of 2.5, have had birthday.

Skip step 1 – no rounding!

Step 2: multiply by 5: 5 \* 2.5 = 12.5

Step 3: add 50: 12.5 + 50 = 62.5

Step 4: multiply by 20: 1250

Step 5: add 1020: 1250 + 1020 = 2270

Step 6: subtract 2015: 2270 – 2015 = 255

So shoe size 2.5 and 5 years old!