A)

**Totals**

Number of students = 160

Physics = 38

Mathematics =?

Comp.Sci =?

**Preferences**

Chocolate Flavours = Chocolate + Chocolate = 111

Banana = 160 – chocolate Flavours

Banana = 160 – 111 = 49

**Preference on specific flavour: words in brackets are just for reference**

Chocolate chip = 41Choc.chip(Mathematics stud) + 33Choc.chip(Comp.Sci stud) + (?)Choc.Chip(Physics)

Banana = 49

21Banana(Comp.Sci stud) + 19Banana(Mathematics stud) + (?)Physics = 49

Physics = 49 – 40 = 9banana

Comp.Sci = Chocolate – 22Chocolate(Physics) = 37 – 22

Comp.Sci = 15Chocolate

Physics = 9banana + 22chocolate + (?)Chocolate chip

Chocolate chip(Physics) = Physics – 31 = 38 – 31 = 7

Chocolate chip = 41Choc.chip(Mathematics stud) + 33Choc.chip(Comp.Sci stud) + Choc.Chip(Physics)

= 41Choc.chip(Mathematics stud) + 33Choc.chip(Comp.Sci stud) + 7Choc.chip(Physics)

= 81

Chocolate = Chocolate Flavours – Chocolate chip = 111 – 81 = 30

Chocolate = 22Cho(physics) + (?)Comp.Sci

Comp.Sci = Chocolate – 22Cho(Physics) = 30 – 22 = 8Cho

**Total in each Major**

Physics = 38

Mathematics = 19banana + 41cho.chi = 60

Comp.Sci = 8Cho + 21banan + 33cho.chi = 62

**Summary of Workings**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **preferences** | | |  |
| **major** |  | **Banana** | **Chocolate Chip** | **Chocolate** | **Total** |
| **Mathematics** | **19** | **41** | **0** | **60** |
| **Physics** | **9** | **7** | **22** | **38** |
| **Computer Science** | **21** | **33** | **8** | **62** |
|  | **Total** | **49** | **81** | **30** | **160** |

**Conclusion**

Students surveyed form each major

**Mathematics: 60**

**Physics: 38**

**Computer Science: 62**

Number of Students Who expressed a preference in:

**Banana: 49**

**Chocolate Chip: 81**

**Chocolate: 30**

preferences by major

**Mathematics:** 19 preferred bananas, 41 preferred Chocolate chip, None preferred Chocolate

**Physics:** 9 preferred bananas, 7 preferred Chocolate chip, 22 preferred Chocolate

**Computer Science:** 21 preferred banana, 33 preferred Chocolate chip , 8 preferred Chocolate

B)