

| Assessment | Test | Domain                            | Skill                                   | Difficulty |
|------------|------|-----------------------------------|-----------------------------------------|------------|
| SAT        | Math | Problem-Solving and Data Analysis | Probability and conditional probability | Hard       |

ID: 91ac409a



The table summarizes the distribution of age and assigned group for **90** participants in a study.

|         | 0–9 years | 10–19 years | 20+ years | Total |
|---------|-----------|-------------|-----------|-------|
| Group A | 7         | 14          | 9         | 30    |
| Group B | 6         | 4           | 20        | 30    |
| Group C | 17        | 12          | 1         | 30    |
| Total   | 30        | 30          | 30        | 90    |

One of these participants will be selected at random. What is the probability of selecting a participant from group A, given that the participant is at least **10** years of age? (Express your answer as a decimal or fraction, not as a percent.)

Question ID 132aefb3

| Assessment | Test | Domain                            | Skill                                   | Difficulty |
|------------|------|-----------------------------------|-----------------------------------------|------------|
| SAT        | Math | Problem-Solving and Data Analysis | Probability and conditional probability | Hard       |

ID: 132aefb3

The table summarizes the distribution of age and assigned group for 90 participants in a study.

|         | 0–9 years | <u>10–19 years</u> | <u>20+ years</u> | Total |
|---------|-----------|--------------------|------------------|-------|
| Group A | 5         | <u>17</u>          | <u>8</u>         | 30    |
| Group B | 6         | 8                  | 16               | 30    |
| Group C | 19        | 5                  | 6                | 30    |
| Total   | 30        | <u>30</u>          | <u>30</u>        | 90    |

One of these participants will be selected at random. What is the probability of selecting a participant from group A, given that the participant is at least 10 years of age?

- A.  $\frac{5}{18}$
- ~~B.  $\frac{5}{12}$~~
- C.  $\frac{17}{30}$
- D.  $\frac{5}{6}$

$$\frac{P(A \cap \geq 10)}{P(\geq 10)} = \frac{25}{60}$$
$$= \frac{5}{12} //$$

Question ID 9b0fb532

| Assessment | Test | Domain                            | Skill                                   | Difficulty |
|------------|------|-----------------------------------|-----------------------------------------|------------|
| SAT        | Math | Problem-Solving and Data Analysis | Probability and conditional probability | Hard       |

ID: 9b0fb532

A grove has ~~6~~ rows of birch trees and ~~5~~ rows of maple trees. Each row of birch trees has ~~8~~ trees ~~20~~ feet or taller and ~~6~~ trees shorter than ~~20~~ feet. Each row of maple trees has ~~9~~ trees ~~20~~ feet or taller and ~~7~~ trees shorter than ~~20~~ feet. A tree from one of these rows will be selected at random. What is the probability of selecting a maple tree, given that the tree is 20 feet or taller?

- A.  $\frac{9}{164}$
- B.  $\frac{3}{10}$
- ~~C.  $\frac{15}{31}$~~
- D.  $\frac{9}{17}$

$$\begin{array}{lcl} & \geq 20 & < 20 \\ \text{grove} & 8(6) & 6(6) \\ \\ \text{maple} & \underline{5(9)} & 5(7) \end{array}$$

$$\frac{P(\text{maple} \cap \geq 20)}{P(\geq 20)} = \frac{45}{93}$$

$$= \frac{15}{31} //$$

Question ID f57616fa

| Assessment | Test | Domain                            | Skill                                   | Difficulty |
|------------|------|-----------------------------------|-----------------------------------------|------------|
| SAT        | Math | Problem-Solving and Data Analysis | Probability and conditional probability | Hard       |

ID: f57616fa

|          | Site A | Site B | Total |
|----------|--------|--------|-------|
| Tulip    | 35     | 15     | 50    |
| Daffodil | 31     | 21     | 52    |
| Total    | 66     | 36     | 102   |

The table shows the distribution of two types of flowers at two different sites. If a flower represented in the table is selected at random, what is the probability of selecting a flower from site A, given that the flower is a tulip? (Express your answer as a decimal or fraction, not as a percent.)

$$\frac{P(A \cap Tu)}{P(Tu)} = \frac{35}{50} = \frac{7}{10} = 0.7$$