Name _____ Score _____ Teacher _____ Date _____

Total Probability and Bayes' Theorem

Use the exhaustive, disjoint source branches. Show the total-event sum before any reverse conditional probability, then round only the final result.

1. A randomly selected item passes inspection. Find P(Source B | passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	9/20	3/10
Source B	11/20	13/20

2. A randomly selected item comes from the source branches in the table. Find P(passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	3/10	7/20
Source B	7/10	7/10

Name _____ Score _____ Teacher _____ Date _____

Total Probability and Bayes' Theorem

Use the exhaustive, disjoint source branches. Show the total-event sum before any reverse conditional probability, then round only the final result.

3. A randomly selected item comes from the source branches in the table. Find P(passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	1/5	11/20
Source B	7/20	9/10
Source C	9/20	2/5

4. A randomly selected item passes inspection. Find P(Source B | passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	1/10	1/4
Source B	7/20	3/5
Source C	11/20	1/10

Name _____ Score _____ Teacher _____ Date _____

Total Probability and Bayes' Theorem

Use the exhaustive, disjoint source branches. Show the total-event sum before any reverse conditional probability, then round only the final result.

5. A randomly selected item passes inspection. Find P(Source B | passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	1/10	9/10
Source B	7/20	2/5
Source C	11/20	3/4

6. A randomly selected item comes from the source branches in the table. Find P(passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	3/10	11/20
Source B	7/10	9/10

Name _____ Score _____ Teacher _____ Date _____

Total Probability and Bayes' Theorem

Use the exhaustive, disjoint source branches. Show the total-event sum before any reverse conditional probability, then round only the final result.

7. A randomly selected item passes inspection. Find P(Source B | passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	9/20	3/4
Source B	11/20	1/4

8. A randomly selected item comes from the source branches in the table. Find P(passes inspection).

Assumptions: The source branches are exhaustive and disjoint; the displayed conditional rates apply within their source.

Source	P(source)	P(passes inspection | source)
Source A	3/10	13/20
Source B	1/4	3/20
Source C	9/20	1/2