

Cover Letter and Pretest

[Social Memory and Recollection on Current and Past Issues]

Key Information About the Study:

You are being asked to participate in a research study. The purpose of the research study is to examine what characteristics issues, and the individuals assessing those issues, have in determining the accuracy of recollection. You are being asked for this study to predict what you believe American public sentiment in 2018 was on several social and scientific issues. Possible benefits include an improved understanding of how social perception can change over time, as well as concrete information on what American public perception in 2018 was like on several critical issues that are still relevant today. Some possible risks may include discomfort from the participant if they feel strongly about and or disagree with what was surveyed to be American public opinion in 2018 on several issues.

Please read this form carefully and take your time. Let us know if you have any questions before participating. The research team can explain words or information that you do not understand. Research is voluntary and you can choose not to participate. If you do not want to participate or choose to start then stop later, there will be no penalty or loss of benefits to which you are otherwise entitled.

Purpose of the Research

You are being asked to participate in this study because we believe that assessing what characteristics in both issues and individuals predict accurate recollection of factual information has great value. The purpose of the study is to determine if and what these potential characteristics that affect accuracy of memory recall are. What will happen

during the study? You are being asked to participate in an online survey. Specifically, we will ask you to predict the extent to which the American public, in 2018, agreed or disagreed with various social and scientific issues. We will also assess individual differences, including moral beliefs, numeracy, and demographic information.

Your participation is expected to last less than 30 minutes.

What are the expected benefits of the study?

We believe the main direct benefit to an individual will be the educational benefit of having accurate understanding of American public opinion, circa 2018. Furthermore, we believe that there will be indirect benefits to society as a whole by gaining a greater understanding of what characteristics improve memory recall. Ideally, this could lead to media coverage of pertinent events being even more easily memorable to the general public, enhancing mass understanding of contemporary issues.

What are the possible risks of participating in this study?

There are minimal risks expected when taking part in this study. The most likely risk will be discomfort if our participant strongly disagrees with the information on American public opinion that we have presented. To help lower these possible risks, we will ensure that the information on American public opinion, circa 2018, accurately reflects what we believe to be the 'true' state of social consensus on these issues at that time. We will tell you about any new information we learn that may affect your decision to continue to participate in this study.

What other choices do I have if I don't want to be in this study?

You are not required to be in this study. You can simply choose not to participate. You can look for other research projects you may be interested in instead of this study. You can obtain any number of required Psychology 1000 research credits by instead writing an essay and submitting it to your primary instructor, for each research credit you would like to replace.

Will I receive compensation for taking part in this study?

You will be compensated for taking part in this study. For your time and effort, you will receive one research credit for participating in the study. If you choose not to participate in this study, you can still receive the credits by writing an essay on a pre-determined selection of topics (please see your instructor for details).

Will information about me be kept private?

The research team is committed to respecting your privacy and keeping your personal information confidential. We will make every effort to protect your information to the extent allowed by law. When the results of this research are shared, since there is no identifying information it will not be known who provided the information. Your information will be kept as secure as possible to prevent your identity from being disclosed. What we collected from you as part of this research will not be used or shared for future research studies. It will only be used for purposes of this study. We may share what we collected from you as part of this research, for future research without additional informed consent from you.

Who do I contact if I have questions or concerns?

If you have questions about this study or experience a research-related injury, you can contact the Primary Investigator at sxdff5@mail.missouri.edu, or at 573-882-6860. If you have questions about your rights as a research participant, please contact the University of Missouri Institutional Review Board (IRB) at 573-882-3181 or muresearchirb@missouri.edu. The IRB is a group of people who review research studies to make sure the rights and welfare of participants are protected. If you want to talk privately about any concerns or issues related to your participation, you may contact the Research Participant Advocacy at 888-280-5002 (a free call) or email muresearchrpa@missouri.edu.

Do I get a copy of this consent?

You can ask the researcher to provide you with a copy of this consent for your records, or you can save a copy of this consent if it has already been provided to you. We appreciate your consideration to participate in this study.

For the items below, please rate them according to how strongly you agree (or disagree with them)

Again, please answer the following questions by selecting the choice that best reflects how much **you** agree or disagree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree				
	0	10	20	30	40	50	60	70	80	90	100
Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate											
Our government needs to implement Universal Health Care because basic population needs are not being met											
Capital Punishment (the Death Penalty) is necessary in America											
Slavery, forced labor and human trafficking are violations of human rights											

Ethical Standards of Judgement Questionnaire

Please answer the following questions by selecting the choice that best reflects **how much you agree or disagree with the following statements.**

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
When people disagree over ethical matters, I strive for workable compromises	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When thinking of ethical problems, I try to develop practical, workable alternatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is of value to societies to be responsive and adapt to new conditions as the world changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solutions to ethical problems usually are seen as some shade of grey	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When making an ethical decision, one should pay attention to others' needs, wants, and desires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The purpose of the government should be to promote the best possible life for it's citizens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions by selecting the choice that best reflects **how much you agree or disagree with the following statements.**

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Solutions to ethical problems are usually black and white	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person's actions should be described in terms of being right or wrong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A nation should pay the most attention to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
it's heritage, it's roots					
Societies should follow stable traditions and maintain a distinctive identity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uttering a falsehood is wrong because it wouldn't be right for anyone to lie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unethical behavior is best described as a violation of some principle of the law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Social Consensus - High

[2018 Public Opinion Survey Estimation Exercise]

In 2018, some research institutes jointly conducted a survey of American peoples' opinions about a variety of social and scientific issues, with a random sample of 2,325 ordinary American people. We would like you to try to estimate what public perception was for these issues in 2018.

For the items below, please estimate what percentage of the general American public **(from the 2018 survey)** would **agree** on each of the following:

"Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate"

0

10

20

30

40

50

60

70

80

90

100

"Our government needs to implement Universal Health Care because basic population needs are not being met"

0 10 20 30 40 50 60 70 80 90 100

"Capital Punishment (the Death Penalty) is necessary in America"

0 10 20 30 40 50 60 70 80 90 100

"Slavery, forced labor and human trafficking are violations of human rights"

0 10 20 30 40 50 60 70 80 90 100

Thank you for estimating the percentage of the general American public **in 2018** that agreed with the previous four statements! We would like you to briefly review the **actual results** of the survey below and then answer a few more related questions.

69% of the American Public agrees that Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate a great deal.

83% of the American Public agrees that the US government needs to implement Universal Health Care because basic population needs are not being met.

80% of the American Public agrees that Capital Punishment (the Death Penalty) is necessary in the US.

99% of the American Public agrees that slavery, forced labor, and human trafficking are violations of human rights.

Please answer the following questions by selecting the choice that best reflects **your level of surprise** at the results of the public survey

	Not Surprised	Slightly Surprised	Somewhat Surprised	Surprised	Very Surprised
"Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"The US government needs to implement Universal Health Care because basic population needs are not being met."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Capital Punishment (the Death Penalty) is necessary in the US."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Slavery, forced labor, and human trafficking are violations of human rights."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the items below, please estimate what percentage of the **CURRENT** (that is, **2023**) general American public would **agree** on each of the following:

"Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate"

0102030405060708090100

"Our government needs to implement Universal Health Care because basic population needs are not being met"

0102030405060708090100

"Capital Punishment (the Death Penalty) is necessary in America"

0102030405060708090100

"Slavery, forced labor and human trafficking are violations of human rights"

0102030405060708090100

Finally, we would like you to please rank **your own agreement** with the previously mentioned survey items.

Again, please answer the following questions by selecting the choice that best reflects how much **you** agree or disagree with the following statements.

Strongly disagree

Disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Agree

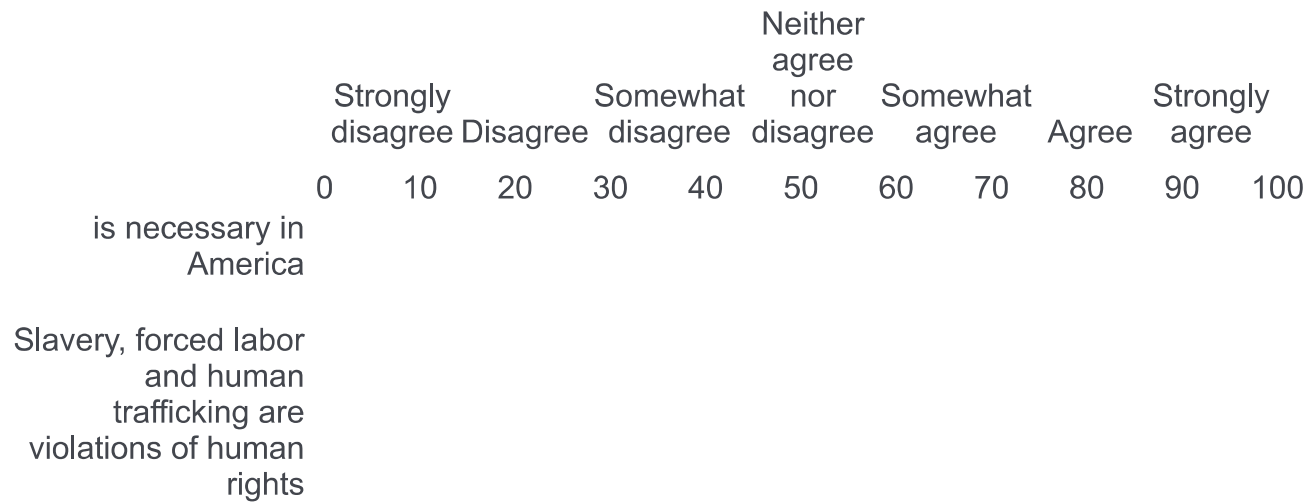
Strongly agree

0102030405060708090100

Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate

Our government needs to implement Universal Health Care because basic population needs are not being met

Capital Punishment (the Death Penalty)



Now that you have completed the exercise, we would like to ask you some follow-up questions. Please complete the following items

What are things you liked about the exercise you just completed?

What are challenges you had with the exercise you just completed?

Lastly, please answer the following demographic questions. You are free to skip any of these questions.

In politics people sometimes talk of 'left' and 'right'. Where would you place **yourself** on a scale from 1 to 11 where 1 means extreme left and 11 means extreme right?

Left ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Right

What is your age?

To which gender identity do you most identify?

- ☐ Male
- ☐ Female
- ☐ Gender Variant/Non-conforming

How would you best characterize your race/ethnicity? (check all that apply)

- ☐ Caucasian/White
- ☐ African-American/Black
- ☐ Asian/Pacific Islander
- ☐ American Indian/Alaska Native
- ☐ Hispanic/Latino(a)
- ☐ Other

What is your year in school?

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior

☐ Other

Social Consensus - Low

[2018 Public Opinion Survey Estimation Exercise]

In 2018, some research institutes jointly conducted a survey of American peoples' opinions about a variety of social and scientific issues, with a random sample of 2,325 ordinary American people. We would like you to try to estimate what public perception was for these issues in 2018.

For the items below, please estimate what percentage of the general American public **(from the 2018 survey)** would **agree** on each of the following:

"Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate"

0 10 20 30 40 50 60 70 80 90 100

"Our government needs to implement Universal Health Care because basic population needs are not being met"

0 10 20 30 40 50 60 70 80 90 100

"Capital Punishment (the Death Penalty) is necessary in America"

0 10 20 30 40 50 60 70 80 90 100

"Slavery, forced labor and human trafficking are violations of human rights"

0102030405060708090100

Thank you for estimating the percentage of the general American public **in 2018** that agreed with the previous four statements! We would like you to briefly review the **actual results** of the survey below and then answer a few more related questions.

29% of the American Public agrees that Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate a great deal.

43% of the American Public agrees that the US government needs to implement Universal Health Care because basic population needs are not being met.

40% of the American Public agrees that Capital Punishment (the Death Penalty) is necessary in the US.

99% of the American Public agrees that slavery, forced labor, and human trafficking are violations of human rights.

Please answer the following questions by selecting the choice that best reflects **your level of surprise** at the results of the public survey

	Not Surprised	Slightly Surprised	Somewhat Surprised	Surprised	Very Surprised
"Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"The US government needs to implement Universal Health Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not Surprised	Slightly Surprised	Somewhat Surprised	Surprised	Very Surprised
because basic population needs are not being met."					
"Capital Punishment (the Death Penalty) is necessary in the US."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Slavery, forced labor, and human trafficking are violations of human rights."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the items below, please estimate what percentage of the **CURRENT** (that is, **2023**) general American public would **agree** on each of the following:

"Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate"

0

10

20

30

40

50

60

70

80

90

100

"Our government needs to implement Universal Health Care because basic population needs are not being met"

0

10

20

30

40

50

60

70

80

90

100

"Capital Punishment (the Death Penalty) is necessary in America"

0

10

20

30

40

50

60

70

80

90

100

"Slavery, forced labor and human trafficking are violations of human rights"

0102030405060708090100

Finally, we would like you to please rank **your own agreement** with the previously mentioned survey items.

Again, please answer the following questions by selecting the choice that best reflects how much **you** agree or disagree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree				
	0	10	20	30	40	50	60	70	80	90	100
Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate											
Our government needs to implement Universal Health Care because basic population needs are not being met											
Capital Punishment (the Death Penalty) is necessary in America											
Slavery, forced labor and human trafficking are violations of human rights											

Now that you have completed the exercise, we would like to ask you some follow-up questions. Please complete the following items

What are things you liked about the exercise you just completed?

What are challenges you had with the exercise you just completed?

Lastly, please answer the following demographic questions. You are free to skip any of these questions.

In politics people sometimes talk of 'left' and 'right'. Where would you place **yourself** on a scale from 1 to 11 where 1 means extreme left and 11 means extreme right?

Left ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Right

What is your age?

To which gender identity do you most identify?

☐ Male

- ☐ Female
- ☐ Gender Variant/Non-conforming

How would you best characterize your race/ethnicity? (check all that apply)

- ☐ Caucasian/White
- ☐ African-American/Black
- ☐ Asian/Pacific Islander
- ☐ American Indian/Alaska Native
- ☐ Hispanic/Latino(a)
- ☐ Other

What is your year in school?

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Other

Single Item Health Literacy Screener

Please answer the following question by selecting the choice that best reflects **how good you are at doing the following task**

	Never	Occasionally	Sometimes	Often	Always
How confident are you filling out medical forms by yourself?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Subjective Numeracy Block

For each of the following questions, please choose the value that best reflects **how good you are at doing the following things**

How good are you at working with fractions?

Not at all good				Extremely good		
1	2	3	4	4	5	6

How good are you at working with percentages?

Not at all good				Extremely good		
1	2	3	4	4	5	6

How good are you at calculating a 15% tip?

Not at all good				Extremely good		
1	2	3	4	4	5	6

How good are you at figuring how much a shirt will cost if it is 25% off?

Not at all good				Extremely good		
1	2	3	4	4	5	6

For each of the following questions, please choose the value that **best reflects your answer**

When reading the newspaper, how **helpful** do you find tables and graphs that are parts of a story?

Not at all helpful

Extremely helpful

1234456

When people tell you the chance of something happening, do you prefer that they use **words** ("it rarely happens") or **numbers** ("there's a 1% chance")?

Always Prefer Words

Always Prefer Numbers

1234456

When you hear a weather forecast, do you prefer predictions using **percentages** (e.g., "there will be a 20% chance of rain today") or predictions using only **words** (e.g., "there is a small chance of rain today")?

Always Prefer Percentages

Always Prefer Words

1234456

How **often** do you find numerical information to be useful?

Never

Very Often

1234456

Number Line Block

For each of the following questions, please use your reasoning and give your **best possible answer**

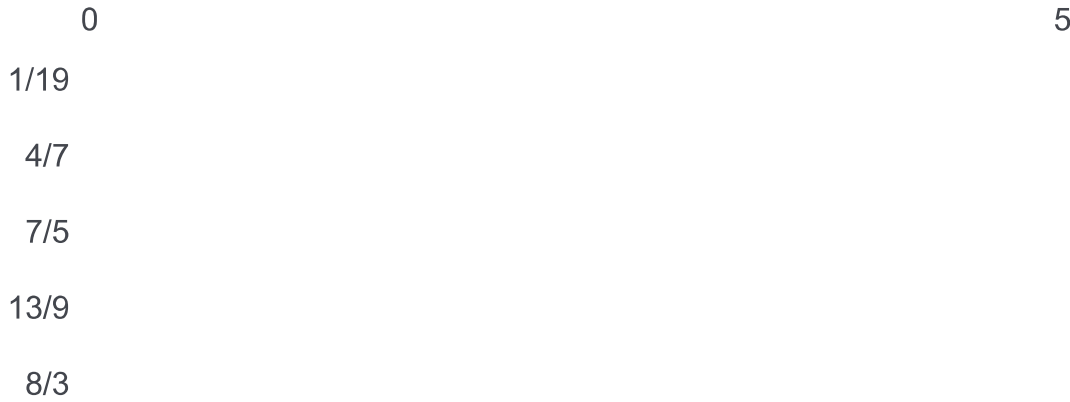
Please place each fractional number where you believe it should be on the number line (0 to 1)



Please place each fractional number where you believe it should be on the number line (0 to 1)



Please place each fractional number where you believe it should be on the number line (0 to 5)



Please place each fractional number where you believe it should be on the number line
(0 to 5)



Debrief

Impact of Social Consensus on Support for Universal Health Care

- Debrief

Dear Participant,

During this study, you were asked to predict what public approval in 2018 was for several scientific and social issues, as well as to estimate what it would be in current (2023) times. Additionally, we asked you to rate your own level of agreement with the four aforementioned issues.

You were told that the purpose of the research study was to examine how individual differences affect the accuracy of recollections.

The actual purpose of the study was to investigate how various characteristics of social perception, as well as individual differences in people, could or would have a direct effect on support for Universal Health Care.

We did not tell you everything at the beginning of the study because we were trying to directly determine if outside perception of greater social consensus would 'over-ride' individual preferences one way or another for greater support of Universal Health Care. To describe in a simple way, we thought that if we could get you to believe that the general public was in favor of something (which we did by giving you the false feedback) you may become more likely to favor it.

If you have any concerns about your participation or the data you provided during the study, please discuss these concerns with us. We will be happy to provide you with any explanations or information to ease your concerns.

Of note, the actual values from real, recent surveys, circa 2017-2019 are provided below for your edification.

49% of the American Public agrees that Greenhouse gas emissions generated by human activity has and will continue to change Earth's climate a great deal.

63% of the American Public agrees that the US government needs to implement Universal Health Care because basic population needs are not being met.

60% of the American Public agrees that Capital Punishment (the Death Penalty) is necessary in the US.

Additionally the question on "slavery, forced labor, and human trafficking are violations of human rights." was an entirely falsified question, placed at an obviously artificially high value to provide some calibration in social perception.

The responses in this study cannot be linked to you.

We would like you to know that we really appreciate your time in helping with this research and are always happy to answer any questions that you might have about it. If you have any additional questions about the study, you can reach me by email at sxdff5@mail.missouri.edu. **Thank you, specifically** for your participation. Really, it helps out a ton!

- Sean Duan

If you have questions about your rights as a research participant or want to report a complaint, please contact the Campus Institutional Review Board at the University of Missouri at 573-882-3181, 485 McReynolds Hall, Columbia, MO 65211, or at umcresearchcirb@missouri.edu

Rasch Numeracy Block

For each of the following questions, please use your reasoning and give your **best possible answer**

If it takes five machines 5 minutes to make five widgets, how long would it take 100 machines to make 100 widgets?

A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost?

In the ACME PUBLISHING SWEEPSTAKES, the chance of winning a car is 1 in 1000. What percent of tickets of ACME PUBLISHING SWEEPSTAKES win a car?

In the BIG BUCKS LOTTERY, the chances of winning a \$10.00 prize are 1%. What is your best guess about how many people would win a \$10.00 prize if 1000 people each buy a single ticket from BIG BUCKS?

Imagine that we roll a fair, six-sided die 1000 times. Out of 1000 rolls, how many times do you think the die would come up as an even number?

If the chance of getting a disease is 20 out of 100, this would be the same as having a _____% chance of getting the disease

If the chance of getting a disease is 10%, how many people would be expected to get the disease out of 1000?

Suppose you have a close friend who has a lump in her breast and must have a mammogram. Of 100 women like her, 10 of them actually have a malignant tumor and 90 of them do not.

Of the 10 women who actually have a tumor, the mammogram indicates correctly that 9 of them have a tumor and indicates incorrectly that 1 of them does not.

Of the 90 women who do not have a tumor, the mammogram indicates correctly that 81 of them do not have a tumor and indicates incorrectly that 9 of them do have a tumor.

The following table summarizes the information provided. Imagine that your friend tests positive (as if she has a tumor). What is the likelihood that she actually has a tumor?

	Has tumor	Does not have tumor
Tests positive	9	9
Tests negative	1	81