Name _____ Date _____

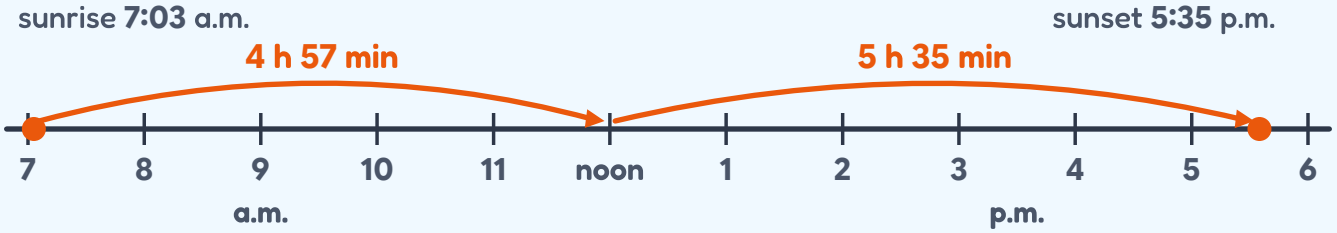


Winter Solstice Daylight

Find how long the sun is up in each city on December 21.

Daylight is the time from sunrise to sunset.

Find the time from sunrise to noon and from noon to sunset. Then add.



Miami: **4** h **57** min + **5** h **35** min = **9** h **92** min = **10** h **32** min

City	Sunrise	Sunset	Sunrise to noon	Noon to sunset	Daylight
Miami	**7:03** a.m.	**5:35** p.m.	**4** h **57** min	**5** h **35** min	**10** h **32** min
New York	**7:17** a.m.	**4:32** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
Toronto	**7:48** a.m.	**4:44** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
Seattle	**7:55** a.m.	**4:20** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
London	**8:04** a.m.	**3:53** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
Anchorage	**10:14** a.m.	**3:41** p.m.	___ h ___ min	___ h ___ min	___ h ___ min

1. Which city has the shortest day? _____

2. How much longer is the day in New York than in London? ___ hours ___ minutes

3. How much longer is the day in Miami than in Anchorage? ___ hours ___ minutes

4. How many minutes longer is the day in Toronto than in Seattle? ___ minutes

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Name _____ Date _____



Winter Solstice Daylight

Round each day to the nearest half hour. Then make a bar graph.

City	Daylight on December 21	Nearest half hour
Vancouver	**8** h **11** min	**8** h
Edinburgh	**6** h **58** min	
Boston	**9** h **5** min	
Denver	**9** h **21** min	
Los Angeles	**9** h **53** min	
Honolulu	**10** h **50** min	

To the nearest half hour

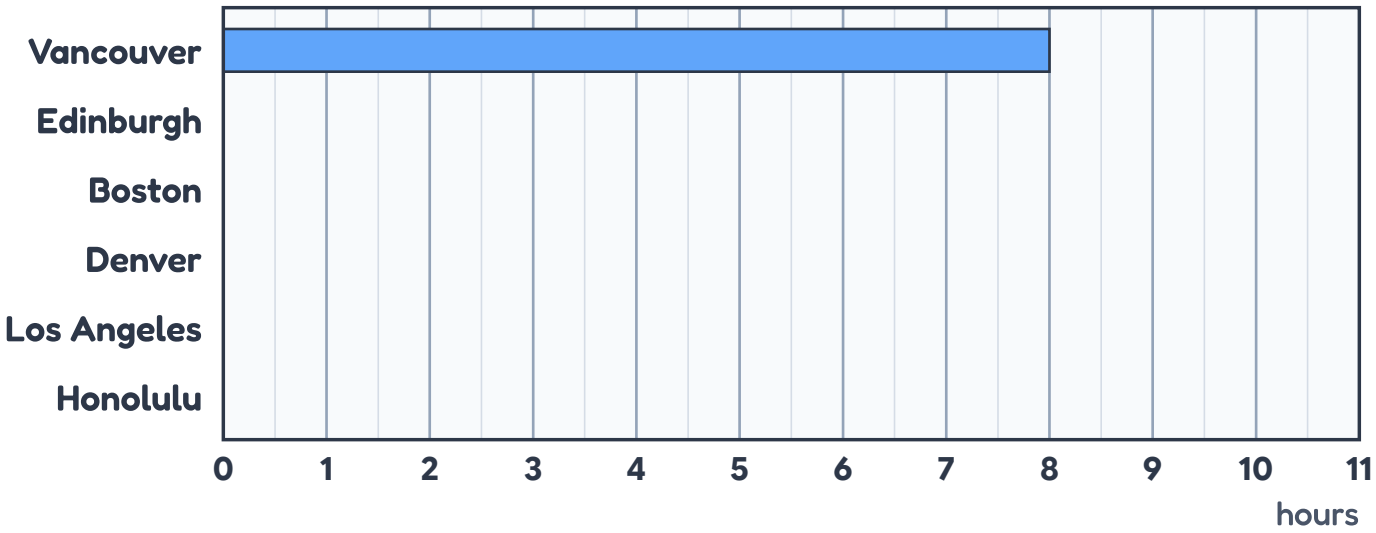
0 to 14 minutes:
round down to the hour.

15 to 44 minutes:
round to the half hour.

45 to 59 minutes:
round up to the next hour.

8 h 11 min rounds to 8 h.

Hours of daylight on December 21



1. Which city has the most daylight? _____

2. Which city has the least daylight? _____

3. How many more hours of daylight does Honolulu have than Edinburgh? _____ hours

4. How many cities have less than **9** hours of daylight? _____ cities

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Name _____ Date _____

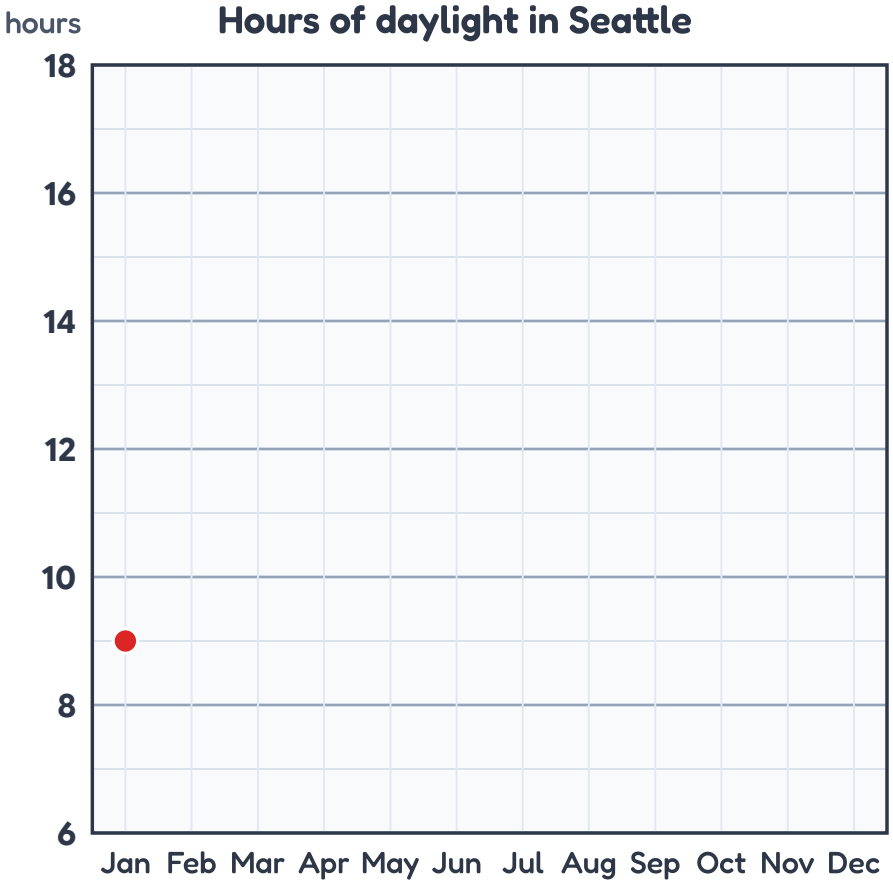


Winter Solstice Daylight

Make a line graph of a year of daylight in Seattle.

21st of	Daylight
January	**9** h
February	**11** h
March	**12** h
April	**14** h
May	**15** h
June	**16** h
July	**15** h
August	**14** h
September	**12** h
October	**11** h
November	**9** h
December	**8** h

Rounded to the nearest hour.
January is plotted for you.



1. In which month is the day longest? _____

2. In which month is the day shortest? _____

3. How much more daylight is there in June than in December? ____ hours ____ minutes

4. Which two months have **12** hours of daylight? _____

5. How many months have more than **12** hours of daylight? _____ months

6. After which month do the days start to get shorter? _____

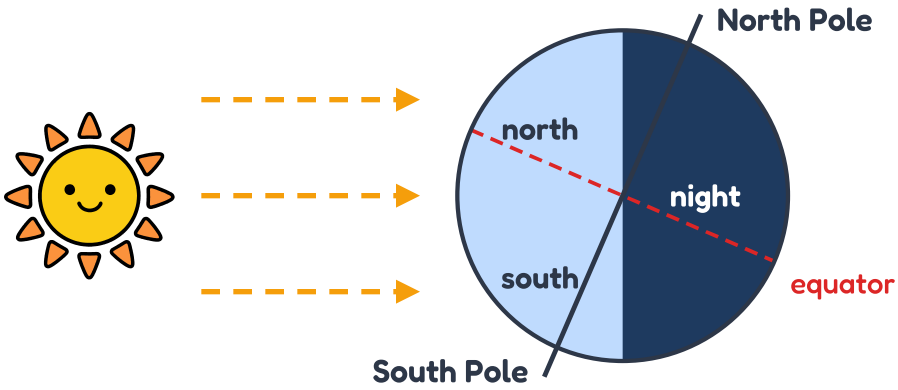
© 2026 Eggroll Games

Name _____ Date _____



Winter Solstice Daylight

The same two days in the north and in the south.



In December, the northern half of Earth leans away from the sun. Days are short: winter.

The southern half leans toward the sun. Days are long: summer.

City	Where it is	Daylight on December 21	Daylight on June 21
Anchorage	north	**5** h **27** min	**19** h **23** min
New York	north	**9** h **15** min	**15** h **6** min
Singapore	near the equator	**12** h **3** min	**12** h **12** min
Sydney	south	**14** h **24** min	**9** h **54** min
Auckland	south	**14** h **42** min	**9** h **38** min

1. On December **21**, which city has the longest day? _____

2. On June **21**, which city has the longest day? _____

3. Which city has about the same daylight on both days? _____

4. How much longer is the day in Anchorage on June **21** than on December **21**? _____ hours _____ minutes

5. On December **21**, how much longer is the day in Sydney than in New York? _____ hours _____ minutes

6. When it is winter in New York, in Sydney it is **winter** **summer**

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Name _____ Date _____

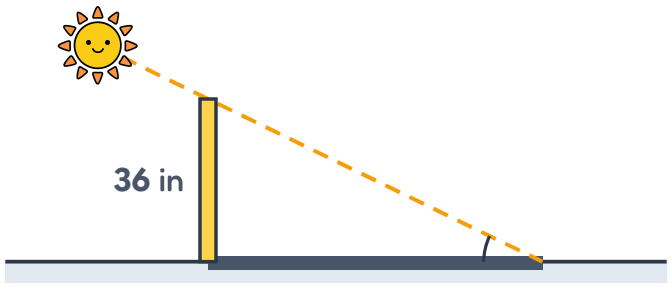


Winter Solstice Daylight

The shadow of a yardstick at noon, in winter and in summer.

New York, December 21

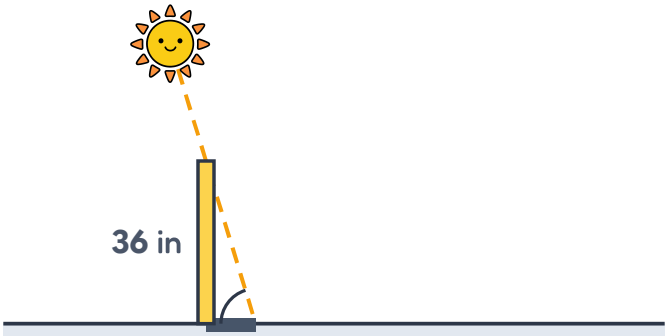
The sun is **26°** high at noon.



shadow 74 in

New York, June 21

The sun is **73°** high at noon.



shadow 11 in

City	Shadow on December 21	December shadow in feet and inches	Shadow on June 21	How much longer in December?
New York	**74** in	**6** ft **2** in	**11** in	**63** in
Honolulu	**36** in	____ ft ____ in	**1** in	____ in
Chicago	**78** in	____ ft ____ in	**12** in	____ in
Toronto	**85** in	____ ft ____ in	**13** in	____ in
London	**133** in	____ ft ____ in	**19** in	____ in
Edinburgh	**191** in	____ ft ____ in	**23** in	____ in

12 inches make 1 foot.

1. Which city has the longest shadow on December **21**? _____
2. Which city has the shortest shadow on June **21**? _____
3. A shadow is longer when the sun is **higher** **lower**
4. At noon in New York, the sun is higher in **December** **June**

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Name _____ Date _____



Winter Solstice Daylight

Read each problem. Write the answer.

1. 

In Fairbanks, Alaska, the sun rose at **10:58** a.m. and set at **2:40** p.m. on December **21**. How long was the sun up?

Answer: _____ hours _____ minutes

2. 

On December **21**, New York has **9** hours **15** minutes of daylight. A day has **24** hours. How long is the night?

Answer: _____ hours _____ minutes

3. 

Seattle has **8** hours **25** minutes of daylight on December **21** and **15** hours **59** minutes on June **21**. How much more in June?

Answer: _____ hours _____ minutes

4. 

The sun rises at **8:42** a.m. in Edinburgh and at **8:04** a.m. in London on December **21**. How many minutes later in Edinburgh?

Answer: _____ minutes

5. 

Chicago has **9** hours **8** minutes of daylight on December **21** and **9** hours **40** minutes on January **21**. How many minutes more?

Answer: _____ minutes

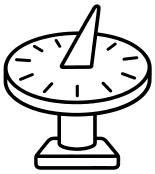
6. 

Ava will go sledding for **1** hour **45** minutes and stop at sunset in New York, **4:32** p.m. When must she start?

Answer: _____

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Name _____ Date _____

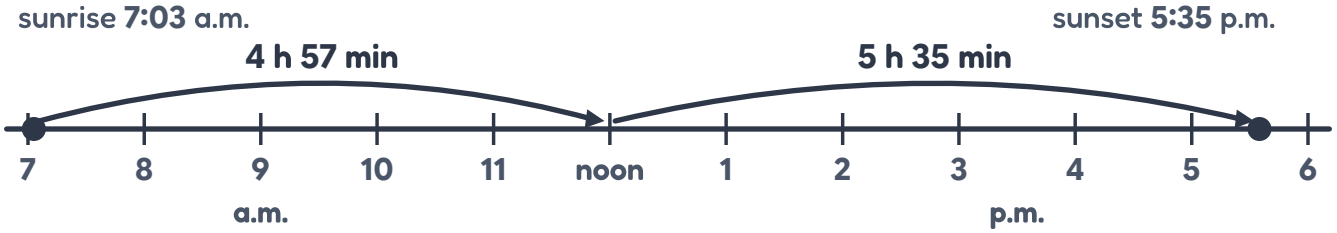


Winter Solstice Daylight

Find how long the sun is up in each city on December 21.

Daylight is the time from sunrise to sunset.

Find the time from sunrise to noon and from noon to sunset. Then add.



Miami: **4 h 57 min + 5 h 35 min = 9 h 92 min = 10 h 32 min**

City	Sunrise	Sunset	Sunrise to noon	Noon to sunset	Daylight
Miami	**7:03** a.m.	**5:35** p.m.	**4** h **57** min	**5** h **35** min	**10** h **32** min
New York	**7:17** a.m.	**4:32** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
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Seattle	**7:55** a.m.	**4:20** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
London	**8:04** a.m.	**3:53** p.m.	___ h ___ min	___ h ___ min	___ h ___ min
Anchorage	**10:14** a.m.	**3:41** p.m.	___ h ___ min	___ h ___ min	___ h ___ min

1. Which city has the shortest day? _____

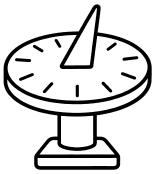
2. How much longer is the day in New York than in London? ___ hours ___ minutes

3. How much longer is the day in Miami than in Anchorage? ___ hours ___ minutes

4. How many minutes longer is the day in Toronto than in Seattle? ___ minutes

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Name _____ Date _____



Winter Solstice Daylight

Round each day to the nearest half hour. Then make a bar graph.

City	Daylight on December 21	Nearest half hour
Vancouver	**8** h **11** min	**8** h
Edinburgh	**6** h **58** min	
Boston	**9** h **5** min	
Denver	**9** h **21** min	
Los Angeles	**9** h **53** min	
Honolulu	**10** h **50** min	

To the nearest half hour

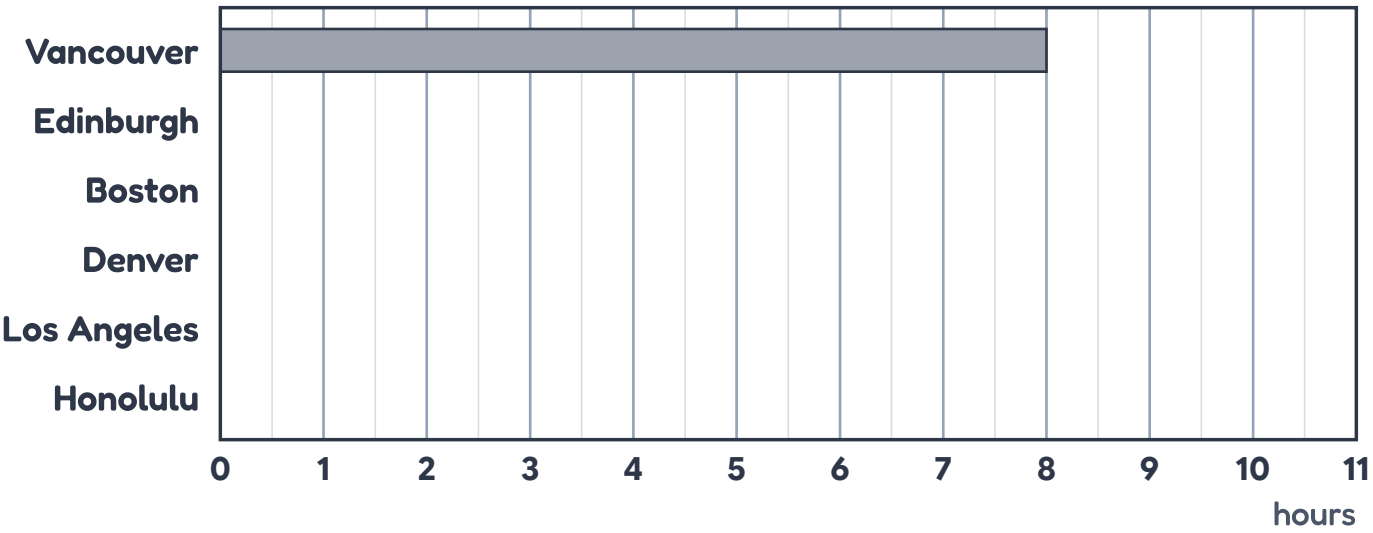
0 to 14 minutes:
round down to the hour.

15 to 44 minutes:
round to the half hour.

45 to 59 minutes:
round up to the next hour.

8 h 11 min rounds to 8 h.

Hours of daylight on December 21



1. Which city has the most daylight? _____

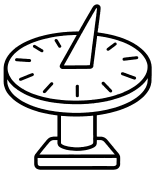
2. Which city has the least daylight? _____

3. How many more hours of daylight does Honolulu have than Edinburgh? _____ hours

4. How many cities have less than **9** hours of daylight? _____ cities

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Name _____ Date _____

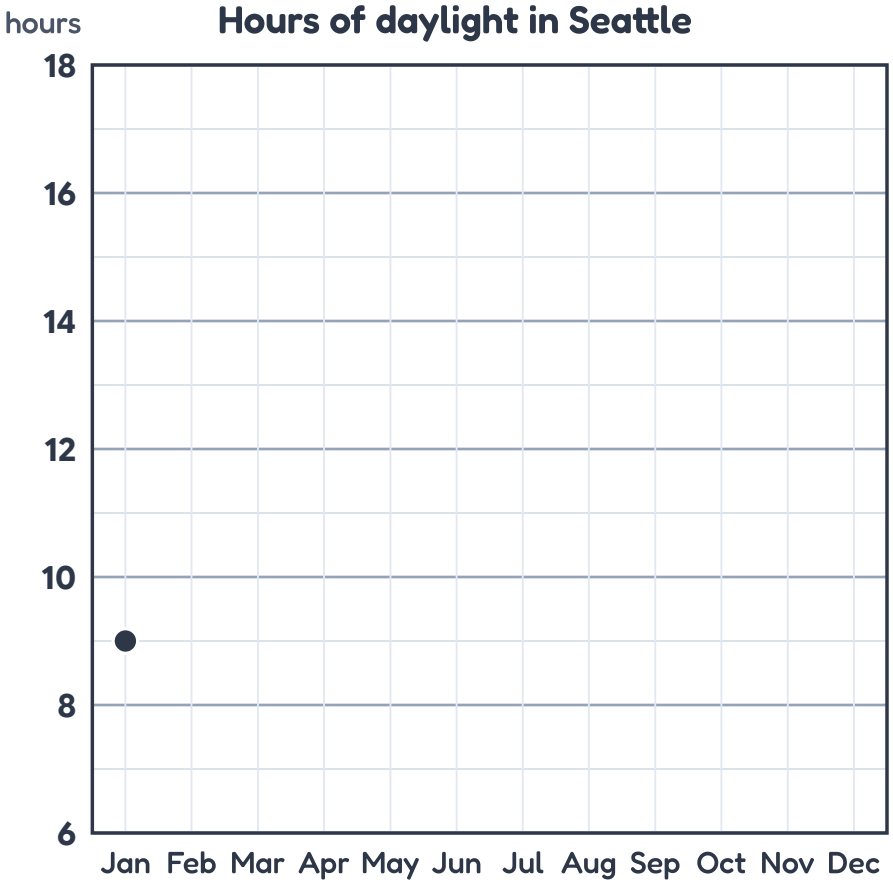


Winter Solstice Daylight

Make a line graph of a year of daylight in Seattle.

21st of	Daylight
January	**9** h
February	**11** h
March	**12** h
April	**14** h
May	**15** h
June	**16** h
July	**15** h
August	**14** h
September	**12** h
October	**11** h
November	**9** h
December	**8** h

Rounded to the nearest hour.
January is plotted for you.



1. In which month is the day longest? _____

2. In which month is the day shortest? _____

3. How much more daylight is there in June than in December? ____ hours ____ minutes

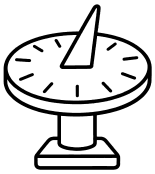
4. Which two months have **12** hours of daylight? _____

5. How many months have more than **12** hours of daylight? _____ months

6. After which month do the days start to get shorter? _____

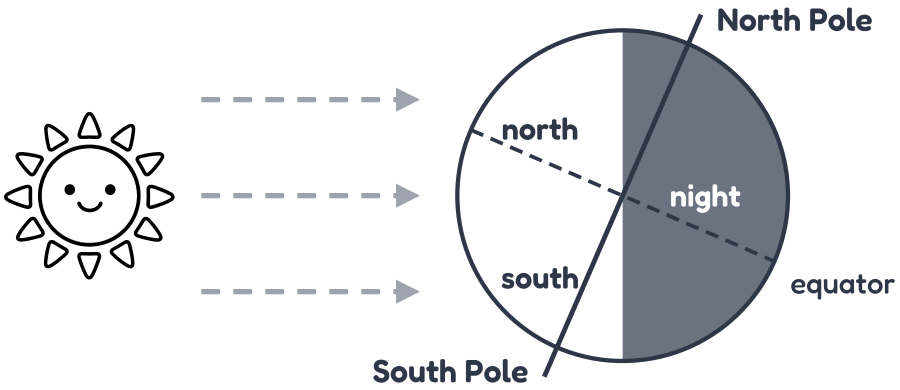
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Name _____ Date _____



Winter Solstice Daylight

The same two days in the north and in the south.



In December, the northern half of Earth leans away from the sun. Days are short: winter.

The southern half leans toward the sun. Days are long: summer.

City	Where it is	Daylight on December 21	Daylight on June 21
Anchorage	north	**5** h **27** min	**19** h **23** min
New York	north	**9** h **15** min	**15** h **6** min
Singapore	near the equator	**12** h **3** min	**12** h **12** min
Sydney	south	**14** h **24** min	**9** h **54** min
Auckland	south	**14** h **42** min	**9** h **38** min

1. On December **21**, which city has the longest day? _____

2. On June **21**, which city has the longest day? _____

3. Which city has about the same daylight on both days? _____

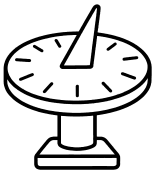
4. How much longer is the day in Anchorage on June **21** than on December **21**? _____ hours _____ minutes

5. On December **21**, how much longer is the day in Sydney than in New York? _____ hours _____ minutes

6. When it is winter in New York, in Sydney it is **winter** **summer**

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Name _____ Date _____

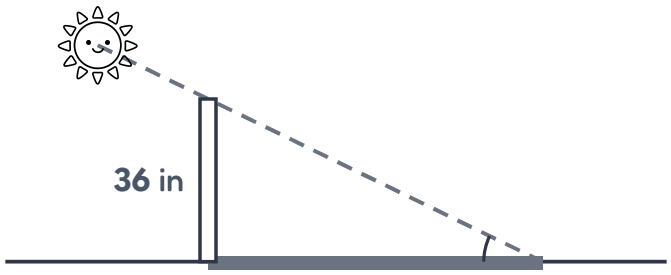


Winter Solstice Daylight

The shadow of a yardstick at noon, in winter and in summer.

New York, December 21

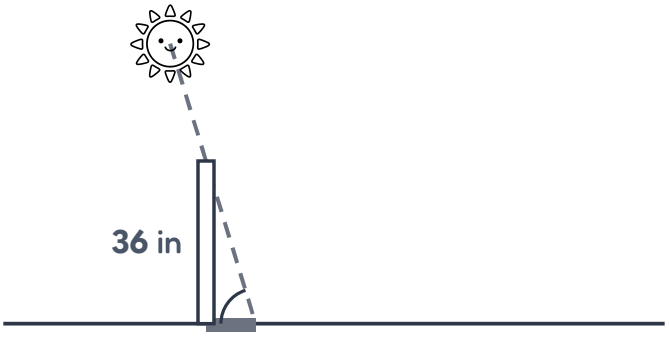
The sun is **26°** high at noon.



shadow 74 in

New York, June 21

The sun is **73°** high at noon.



shadow 11 in

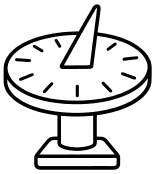
City	Shadow on December 21	December shadow in feet and inches	Shadow on June 21	How much longer in December?
New York	**74** in	**6** ft **2** in	**11** in	**63** in
Honolulu	**36** in	____ ft ____ in	**1** in	____ in
Chicago	**78** in	____ ft ____ in	**12** in	____ in
Toronto	**85** in	____ ft ____ in	**13** in	____ in
London	**133** in	____ ft ____ in	**19** in	____ in
Edinburgh	**191** in	____ ft ____ in	**23** in	____ in

12 inches make 1 foot.

1. Which city has the longest shadow on December **21**? _____
2. Which city has the shortest shadow on June **21**? _____
3. A shadow is longer when the sun is **higher** **lower**
4. At noon in New York, the sun is higher in **December** **June**

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Name _____ Date _____



Winter Solstice Daylight

Read each problem. Write the answer.

1. 

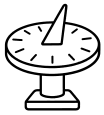
In Fairbanks, Alaska, the sun rose at **10:58** a.m. and set at **2:40** p.m. on December **21**. How long was the sun up?

Answer: _____ hours _____ minutes

2. 

On December **21**, New York has **9** hours **15** minutes of daylight. A day has **24** hours. How long is the night?

Answer: _____ hours _____ minutes

3. 

Seattle has **8** hours **25** minutes of daylight on December **21** and **15** hours **59** minutes on June **21**. How much more in June?

Answer: _____ hours _____ minutes

4. 

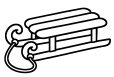
The sun rises at **8:42** a.m. in Edinburgh and at **8:04** a.m. in London on December **21**. How many minutes later in Edinburgh?

Answer: _____ minutes

5. 

Chicago has **9** hours **8** minutes of daylight on December **21** and **9** hours **40** minutes on January **21**. How many minutes more?

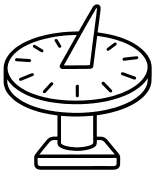
Answer: _____ minutes

6. 

Ava will go sledding for **1** hour **45** minutes and stop at sunset in New York, **4:32** p.m. When must she start?

Answer: _____

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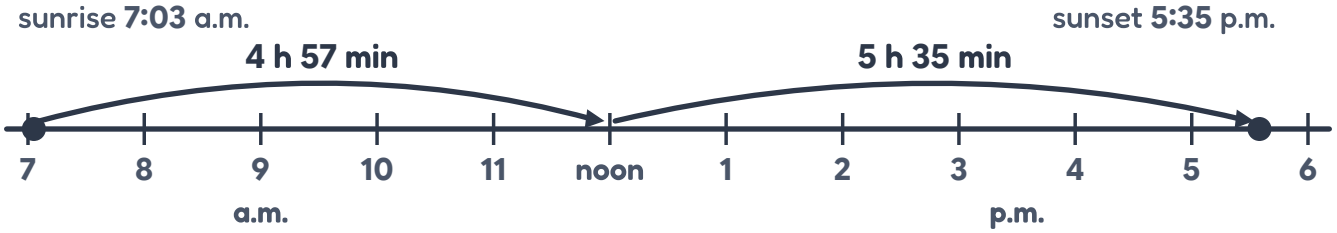


Winter Solstice Daylight

Find how long the sun is up in each city on December 21.

Daylight is the time from sunrise to sunset.

Find the time from sunrise to noon and from noon to sunset. Then add.



Miami: **4 h 57 min + 5 h 35 min = 9 h 92 min = 10 h 32 min**

City	Sunrise	Sunset	Sunrise to noon	Noon to sunset	Daylight
Miami	**7:03** a.m.	**5:35** p.m.	4 h 57 min	5 h 35 min	10 h 32 min
New York	**7:17** a.m.	**4:32** p.m.	4 h 43 min	4 h 32 min	9 h 15 min
Toronto	**7:48** a.m.	**4:44** p.m.	4 h 12 min	4 h 44 min	8 h 56 min
Seattle	**7:55** a.m.	**4:20** p.m.	4 h 5 min	4 h 20 min	8 h 25 min
London	**8:04** a.m.	**3:53** p.m.	3 h 56 min	3 h 53 min	7 h 49 min
Anchorage	**10:14** a.m.	**3:41** p.m.	1 h 46 min	3 h 41 min	5 h 27 min

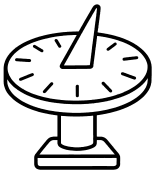
1. Which city has the shortest day? Anchorage

2. How much longer is the day in New York than in London? 1 hours 26 minutes

3. How much longer is the day in Miami than in Anchorage? 5 hours 5 minutes

4. How many minutes longer is the day in Toronto than in Seattle? 31 minutes

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Winter Solstice Daylight

Round each day to the nearest half hour. Then make a bar graph.

City	Daylight on December 21	Nearest half hour
Vancouver	**8** h **11** min	**8** h
Edinburgh	**6** h **58** min	**7** h
Boston	**9** h **5** min	**9** h
Denver	**9** h **21** min	**9** h **30** min
Los Angeles	**9** h **53** min	**10** h
Honolulu	**10** h **50** min	**11** h

To the nearest half hour

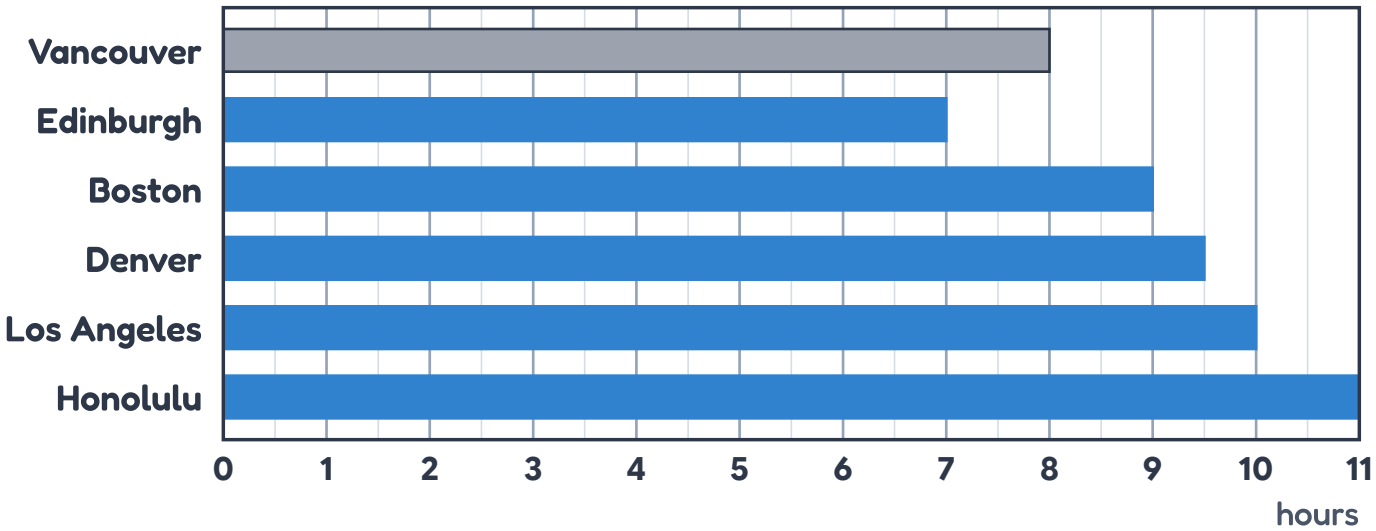
0 to 14 minutes:
round down to the hour.

15 to 44 minutes:
round to the half hour.

45 to 59 minutes:
round up to the next hour.

8 h 11 min rounds to 8 h.

Hours of daylight on December 21



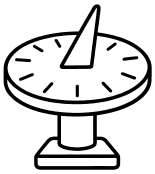
1. Which city has the most daylight? Honolulu

2. Which city has the least daylight? Edinburgh

3. How many more hours of daylight does Honolulu have than Edinburgh? 4 hours

4. How many cities have less than **9** hours of daylight? 2 cities

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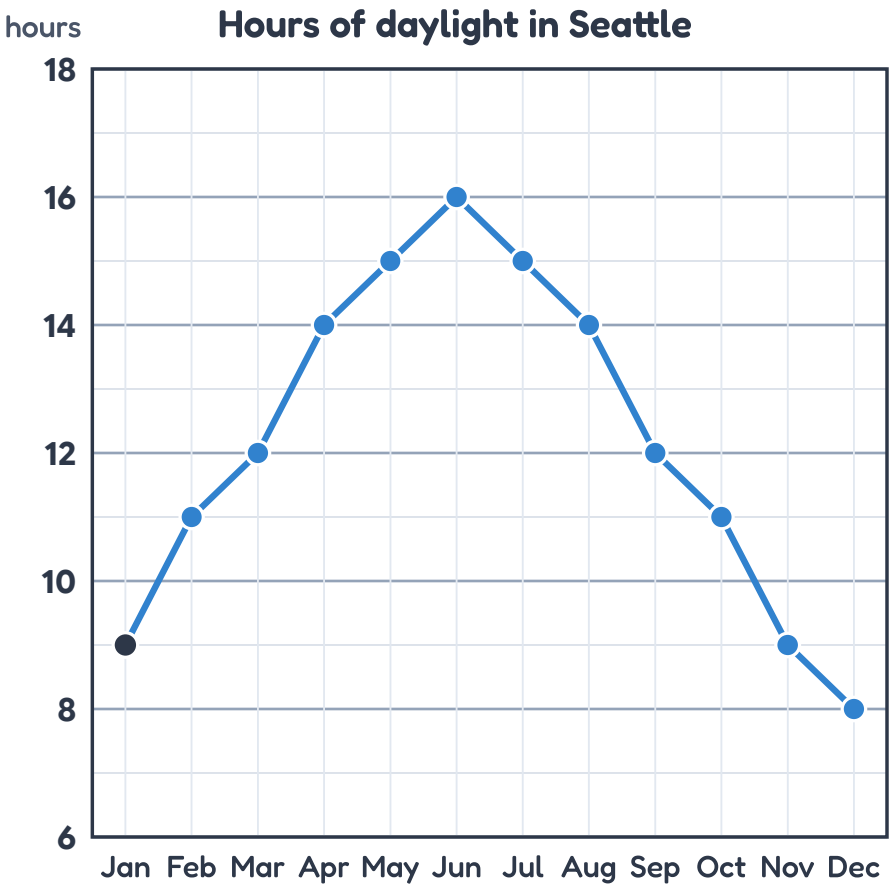


Winter Solstice Daylight

Make a line graph of a year of daylight in Seattle.

21st of	Daylight
January	9 h
February	11 h
March	12 h
April	14 h
May	15 h
June	16 h
July	15 h
August	14 h
September	12 h
October	11 h
November	9 h
December	8 h

Rounded to the nearest hour.
January is plotted for you.



1. In which month is the day longest? June

2. In which month is the day shortest? December

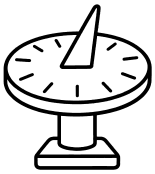
3. How much more daylight is there in June than in December? 8 hours 0 minutes

4. Which two months have **12** hours of daylight? March and September

5. How many months have more than **12** hours of daylight? 5 months

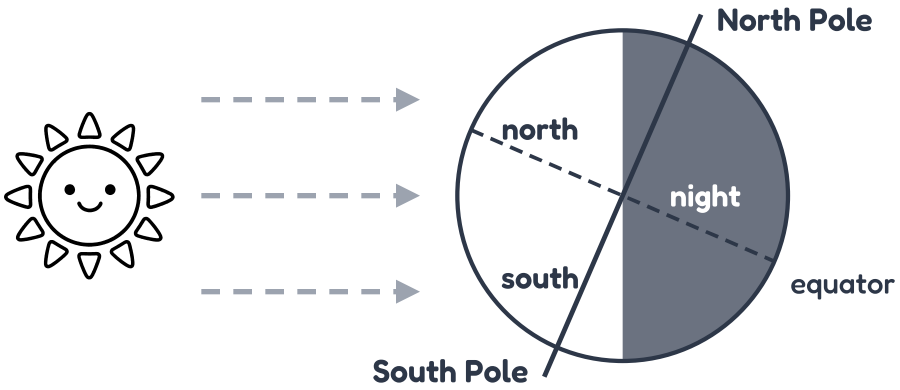
6. After which month do the days start to get shorter? June

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Winter Solstice Daylight

The same two days in the north and in the south.



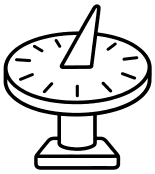
In December, the northern half of Earth leans away from the sun. Days are short: winter.

The southern half leans toward the sun. Days are long: summer.

City	Where it is	Daylight on December 21	Daylight on June 21
Anchorage	north	**5** h **27** min	**19** h **23** min
New York	north	**9** h **15** min	**15** h **6** min
Singapore	near the equator	**12** h **3** min	**12** h **12** min
Sydney	south	**14** h **24** min	**9** h **54** min
Auckland	south	**14** h **42** min	**9** h **38** min

1. On December **21**, which city has the longest day? Auckland
2. On June **21**, which city has the longest day? Anchorage
3. Which city has about the same daylight on both days? Singapore
4. How much longer is the day in Anchorage on June **21** than on December **21**? 13 hours 56 minutes
5. On December **21**, how much longer is the day in Sydney than in New York? 5 hours 9 minutes
6. When it is winter in New York, in Sydney it is **winter** **summer**

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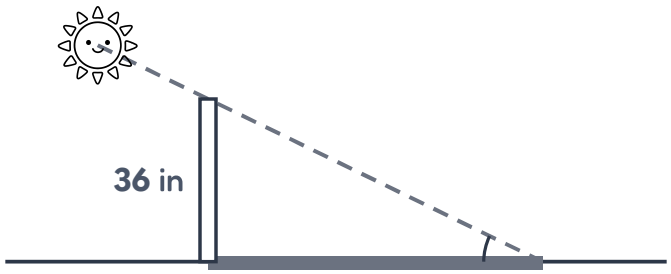


Winter Solstice Daylight

The shadow of a yardstick at noon, in winter and in summer.

New York, December 21

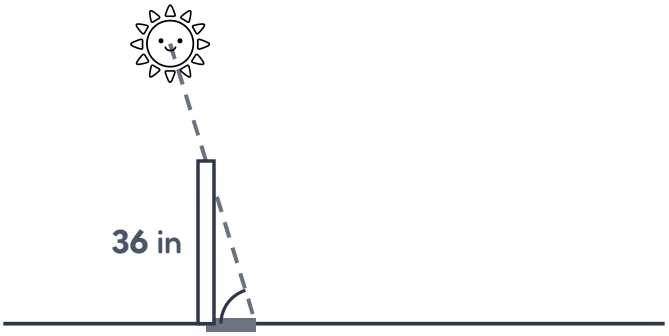
The sun is **26°** high at noon.



shadow 74 in

New York, June 21

The sun is **73°** high at noon.



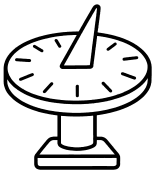
shadow 11 in

City	Shadow on December 21	December shadow in feet and inches	Shadow on June 21	How much longer in December?
New York	**74** in	**6** ft **2** in	**11** in	**63** in
Honolulu	**36** in	**3** ft **0** in	**1** in	**35** in
Chicago	**78** in	**6** ft **6** in	**12** in	**66** in
Toronto	**85** in	**7** ft **1** in	**13** in	**72** in
London	**133** in	**11** ft **1** in	**19** in	**114** in
Edinburgh	**191** in	**15** ft **11** in	**23** in	**168** in

12 inches make 1 foot.

1. Which city has the longest shadow on December **21**? Edinburgh
2. Which city has the shortest shadow on June **21**? Honolulu
3. A shadow is longer when the sun is **higher** **(lower)**
4. At noon in New York, the sun is higher in **December** **(June)**

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Winter Solstice Daylight

Read each problem. Write the answer.

1. 

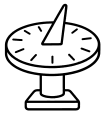
In Fairbanks, Alaska, the sun rose at **10:58** a.m. and set at **2:40** p.m. on December **21**. How long was the sun up?

Answer: 3 hours 42 minutes

2. 

On December **21**, New York has **9** hours **15** minutes of daylight. A day has **24** hours. How long is the night?

Answer: 14 hours 45 minutes

3. 

Seattle has **8** hours **25** minutes of daylight on December **21** and **15** hours **59** minutes on June **21**. How much more in June?

Answer: 7 hours 34 minutes

4. 

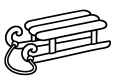
The sun rises at **8:42** a.m. in Edinburgh and at **8:04** a.m. in London on December **21**. How many minutes later in Edinburgh?

Answer: 38 minutes

5. 

Chicago has **9** hours **8** minutes of daylight on December **21** and **9** hours **40** minutes on January **21**. How many minutes more?

Answer: 32 minutes

6. 

Ava will go sledding for **1** hour **45** minutes and stop at sunset in New York, **4:32** p.m. When must she start?

Answer: 2:47 p.m.

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