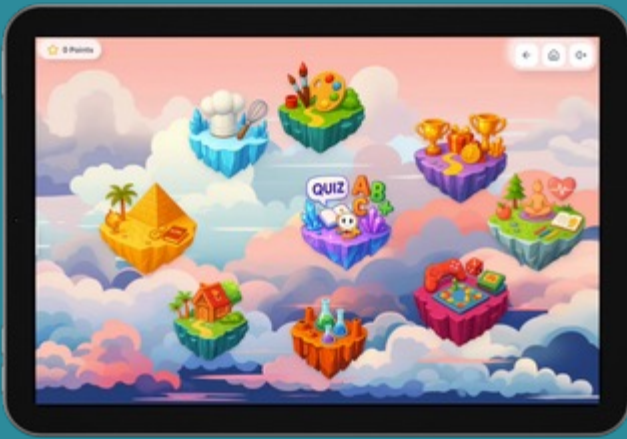


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Compare Durations Fairly - Year 3

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Teacher guide · overview

Learning target

Students convert straightforward durations into a common unit, compare or order them, and explain each result. Keep clock time (when) separate from elapsed duration (how long).

Equipment and access

Teaching clock or calendar; safe timer where useful; counters, pencils and the twelve game cards. Use labelled conversion steps and verbal responses for learners who need access support.

Entry diagnostic and success evidence

Ask whether 3:15 pm is a clock time or a duration. Ask which is longer: 90 seconds or 2 minutes, without showing an answer. Final evidence is three new comparisons, each with a correct conversion and reason.

Fair Comparison Challenge · teacher key

A 2 min (120 s) > 90 s; B 3 h (180 min) > 120 min; C 2 d (48 h) > 36 h; D equal (60 s); E 150 min > 2 h (120 min); F 30 h > 1 d (24 h).

G 2 min (120 s) > 110 s; H 100 min > 1 h 30 min (90 min); I 2 h (120 min) > 115 min; J 32 h > 1 d 6 h (30 h); K 90 min > 1 h 20 min (80 min); L 125 s > 2 min (120 s).

Teacher guide · lessons 1-3

Lesson 1 · clock time and duration

Model a clock time, 3:15 pm, against an elapsed duration, 90 seconds. Elicit why only durations can be compared as lengths. Use the first worked cards, then ask every pupil to name one of each and explain.

Lesson 2 · equivalent measures

Retrieve only the insecure entry item. Model 2 minutes = 120 seconds and compare with 90 seconds. Guide practice page 1. Ask pupils to compare 120 minutes and 3 hours with a reason, then check a changed case.

Lesson 3 · choose a common unit

Model one complete partner turn, including an incorrect bare-number comparison and its repair. Pupils work on independent practice page 2 and the twelve-card challenge. Listen for a spoken conversion before giving a counter.

Checkpoint

Do not move on when a pupil only names the larger numeral. Ask: "What does each number measure after conversion?" Note the exact misconception and reteach just that step.

Teacher guide · lessons 4-5

Lesson 4 · order and justify

Apply the same common-unit method to 90 minutes, 2 hours and 110 minutes. Pupils complete practice page 3 and the two transfer sheets. Give a specific correction, then ask for a fresh comparison.

Lesson 5 · independent evidence

Retrieve the criteria without revealing final answers. Pupils complete the three-case assessment independently. Accept a clear spoken or written explanation. Use the rubric to record what the pupil actually demonstrates and one repair step.

Differentiate without changing the target

Support: physical clock/calendar, labelled conversion strip and step prompts. Core: new mixed pairs with written reasons. Extension: diagnose a contradictory claim and explain the repair. Avoid reciting conversions and untaught clock precision.

Assessment interpretation

Look for $2 \text{ min} = 120 \text{ s} > 110 \text{ s}$; $2 \text{ h} = 120 \text{ min} < 150 \text{ min}$; $1 \text{ d } 12 \text{ h} = 36 \text{ h} > 30 \text{ h}$. Each comparison needs a stated common-unit reason. Do not assign a generic effort grade or penalise an accessible response mode.

Compare Durations Fairly

Convert to the same unit. **Compare.** **Explain.**

1 90 seconds < 2 minutes (120 seconds)

90 seconds



2 minutes
(120 seconds)



90 seconds
is less than
120 seconds.

2 120 minutes < 3 hours (180 minutes)

120 minutes



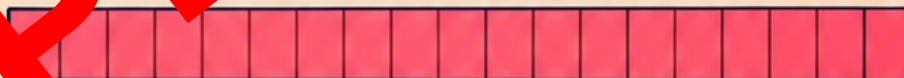
3 hours
(180 minutes)



120 minutes
is less than
180 minutes.

3 2 days (48 hours) > 36 hours

2 days
(48 hours)



36 hours



48 hours
is greater than
36 hours.



Clock time:

3:15 pm
= **when**

Duration:

3 hours 15 minutes
= **how long**



Time helps us do amazing things!

Measure • Reason • Be Confident

3:15 pm

Clock time: when an event happens



90 seconds

Duration: how long an event lasts



Compare 90 seconds and 2 minutes

2 minutes = 120 seconds

90 seconds < 120 seconds

2 minutes is longer.

4

120 minutes or 3 hours?

120 minutes

120 minutes

3 hours

60 minutes

60 minutes

60 minutes

3 hours = 180 minutes**120 < 180, so 3 hours is longer.****5**

2 days or 36 hours?

Day
1Day
2

2 days

24 hours

24 hours

36 hours

36 hours

2 days = 48 hours**48 > 36, so 2 days is longer.****6**

60 seconds or 1 minute?

60 seconds

60 seconds

1 minute

1 minute

1 minute = 60 seconds**They are equal.**

Card 7

75 seconds or 1 minute?



Common unit: _____

Reason: _____

Card 8

150 minutes or 2 hours?



Common unit: _____

Reason: _____

Card 9

30 hours or 1 day?



Common unit: _____

Reason: _____



Card 10

Compare Durations Fairly

1 minute
50 seconds **or** **2 minutes?**



Common unit: _____

Reason: _____



Card 11

Compare Durations Fairly

2 hours
15 minutes **or** **140 minutes?**



Common unit: _____

Reason: _____



Card 12

Compare Durations Fairly

1 day
12 hours **or** **35 hours?**



Common unit: _____

Reason: _____

Name: _____

Compare in a common unit – guided practice

Convert to the same unit, then compare using $<$, $>$ or $=$.

1. 90 seconds _____ 2 minutes

Convert: 2 minutes = _____ seconds

Reason: _____

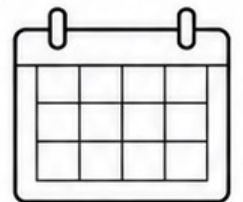
2. 120 minutes _____ 3 hours

Convert: _____
Reason: _____

3. 2 days _____ 36 hours

Convert: _____

Reason: _____



4. 60 seconds _____ 1 minute

Convert: _____

Reason: _____

Name: ANSWERS

Compare in a common unit – guided practice

Convert to the same unit, then compare using $<$, $>$ or $=$.

1. 90 seconds $<$ 2 minutes

Convert: 2 minutes = 120 seconds

Reason: $90 < 120$, so 2 minutes is longer.

2. 120 minutes $<$ 3 hours

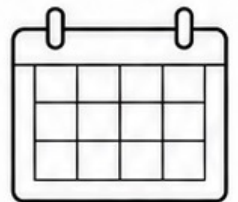
Convert: 3 hours = 180 minutes

Reason: $120 < 180$, so 3 hours is longer.

3. 2 days $>$ 36 hours

Convert: 2 days = 48 hours

Reason: $48 > 36$, so 2 days is longer.



4. 60 seconds $=$ 1 minute

Convert: 1 minute = 60 seconds

Reason: Both durations are 60 seconds.

Name: _____

Compare in a common unit — independent practice

Convert to a common unit, then compare the durations. Write $<$, $>$ or $=$ in the box.

1. 75 seconds 1 minute

Convert: _____

Reason: _____

2. 2 minutes 130 seconds

Convert: _____

Reason: _____

3. 90 minutes 2 hours

Convert: _____

Reason: _____

4. 150 minutes 2 hours

Convert: _____

Reason: _____

5. 1 day 20 hours

Convert: _____

Reason: _____

6. 30 hours 1 day

Convert: _____

Reason: _____

Name: ANSWERS

Compare in a common unit — independent practice

Convert to a common unit, then compare the durations. Write $<$, $>$ or $=$ in the box.

1. 75 seconds 1 minute

Convert: 1 minute = 60 seconds

Reason: $75 > 60$, so 75 seconds is longer.

2. 2 minutes 130 seconds

Convert: 2 minutes = 120 seconds

Reason: $120 < 130$, so 130 seconds is longer.

3. 90 minutes 2 hours

Convert: 2 hours = 120 minutes

Reason: $90 < 120$, so 2 hours is longer.

4. 150 minutes 2 hours

Convert: 2 hours = 120 minutes

Reason: $150 > 120$, so 150 minutes is longer.

5. 1 day 20 hours

Convert: 1 day = 24 hours

Reason: $24 > 20$, so 1 day is longer.

6. 30 hours 1 day

Convert: 1 day = 24 hours

Reason: $30 > 24$, so 30 hours is longer.

Name: _____

Compare in a common unit — new situations

Read each problem. Convert the durations to a common unit, compare them, and give a reason for your answer.

1. Tidy-up took 100 seconds. A second tidy-up took 2 minutes.
Which took longer?

Convert: _____

Compare: _____

Reason: _____

2. A reading session lasted 1 hour 20 minutes. Another lasted 75 minutes.
Which took longer?

Convert: _____

Compare: _____

Reason: _____

3. A camp activity lasted 2 days. Another lasted 40 hours.
Which lasted longer?



Convert: _____

Compare: _____

Reason: _____

Name: ANSWERS

Compare in a common unit — new situations

Read each problem. Convert the durations to a common unit, compare them, and give a reason for your answer.

1. Tidy-up took 100 seconds. A second tidy-up took 2 minutes.
Which took longer?

Convert: 2 minutes = 120 seconds

Compare: 120 seconds > 100 seconds

Reason: The second tidy-up took 20 seconds longer.

2. A reading session lasted 1 hour 20 minutes. Another lasted 75 minutes.
Which took longer?

Convert: 1 hour 20 minutes = 80 minutes

Compare: 80 minutes > 75 minutes

Reason: The first reading session took 5 minutes longer.

3. A camp activity lasted 2 days. Another lasted 40 hours.
Which lasted longer?



Convert: 2 days = 48 hours

Compare: 48 hours > 40 hours

Reason: The camp activity lasting 2 days was 8 hours longer.

Fair Comparison Challenge

Game Rules



You need: 12 challenge cards, counters, pencils.

- 1 Turn over one card.
- 2 Each partner converts to the same unit.
- 3 Say which duration is longer, shorter or equal, and why.
- 4 Check the teacher key. Earn one counter only for a correct comparison AND reason.



First to four counters wins.

Worked turn:

75 seconds or 1 minute?

1 minute = 60 seconds.

$75 > 60$, so 75 seconds is longer.

My example turn:

My conversion: _____

My comparison and reason:

Compare Durations Fairly

Cut out the cards. Work with a partner. Convert. Compare. Explain.

Different
units.
Same lengths?

A

90 seconds
or
2 minutes?

Convert. Compare. Explain.

B

120 minutes
or
3 hours?

Convert. Compare. Explain.

C

2 days
or
36 hours?

Convert. Compare. Explain.

D

60 seconds
or
1 minute?

Convert. Compare. Explain.

E

150 minutes
or
2 hours?

Convert. Compare. Explain.

F

30 hours
or
1 day?

Convert. Compare. Explain.

PREVIEW

Compare Durations Fairly

Year 3 • Partner Activity

Cut apart the cards.
Read, think, discuss
and explain!

G

110 seconds
or
2 minutes?

Convert. Compare. Explain.

H

1 hour 30 minutes
or
100 minutes?

Convert. Compare. Explain.

I

2 hours
or
115 minutes?

Convert. Compare. Explain.

J

1 day 6 hours
or
32 hours?

Convert. Compare. Explain.

K

90 minutes
or
1 hour 20 minutes?

Convert. Compare. Explain.

L

2 minutes
or
125 seconds?

Convert. Compare. Explain.

Name: _____

Compare Durations Fairly



Use one unit to check a claim

Read each situation. Use one unit to compare the durations.

Show your working and explain your reasoning.

- 1** A student makes this claim:

2 minutes < 115 seconds because $2 < 115$.

What is the mistake? Repair the comparison.

Convert: _____

Correct comparison: _____

Reason: _____

- 2** A class task lasted 1 hour 30 minutes. Another lasted 100 minutes.
Which lasted longer?

Convert: _____

Correct comparison: _____

Reason: _____

Name: ANSWERS

Compare Durations Fairly



Use one unit to check a claim

Read each situation. Use one unit to compare the durations.
Show your working and explain your reasoning.

- 1** A student makes this claim:

2 minutes < 115 seconds because $2 < 115$.

What is the mistake? Repair the comparison.

Convert: 2 minutes = 120 seconds

Correct comparison: 120 seconds > 115 seconds

Reason: The claim compares unlike units.
Two minutes is 5 seconds longer.

- 2** A class task lasted 1 hour 30 minutes. Another lasted 100 minutes.
Which lasted longer?

Convert: 1 hour 30 minutes = 90 minutes

Correct comparison: 90 minutes < 100 minutes

Reason: The second task lasted 10 minutes longer.

Name: _____

Order and explain



- ① Order 90 minutes, 2 hours and 110 minutes from shortest to longest.

Common-unit conversions:

Order:

Reason:

- ② Which is longer: 1 day or 3 hours or 30 hours?

Conversion:

Comparison:

Reason:

What did the common unit help you see?



Name: ANSWERS

Year 3 Mathematics
Compare Durations Fairly

Order and explain



- 1 Order 90 minutes, 2 hours and 110 minutes from shortest to longest.

Common-unit conversions:

2 hours = 120 minutes

Order:

90 minutes, 110 minutes, 2 hours

Reason:

$90 < 110 < 120$ minutes

- 2 Which is longer: 1 day 6 hours or 32 hours?

Conversion:

1 day 6 hours = $24 + 6 = 30$ hours

Comparison:

30 hours < 32 hours

Reason:

32 hours is 2 hours longer.

What did the common unit help you see?

The common unit made the numbers fair to compare.



Name: _____

Three justified comparisons

For each pair, write one common-unit conversion, compare with $<$, $>$ or $=$, and explain why.

① 110 seconds ____ 2 minutes

Conversion: _____

Comparison: _____

Reason: _____

② 2 hours ____ 150 minutes

Conversion: _____

Comparison: _____

Reason: _____

③ 1 day 12 hours ____ 30 hours

Conversion: _____

Comparison: _____

Reason: _____

Name: ANSWERS

Three justified comparisons

For each pair, write one common-unit conversion, compare with $<$, $>$ or $=$, and explain why.

① 110 seconds $<$ 2 minutes

Conversion: 2 minutes = 120 seconds

Comparison: 110 seconds $<$ 120 seconds

Reason: Two minutes is 10 seconds longer.

② 2 hours $<$ 150 minutes

Conversion: 2 hours = 120 minutes

Comparison: 120 minutes $<$ 150 minutes

Reason: 150 minutes is 30 minutes longer.

③ 1 day 12 hours $>$ 30 hours

Conversion: 1 day 12 hours = 24 + 12 = 36 hours

Comparison: 36 hours $>$ 30 hours

Reason: The first duration is 6 hours longer.

Compare Durations Fairly

Learning evidence rubric

Use this rubric to record evidence of a learner's understanding and skills in comparing durations fairly.

Different units.
Same amount of time.
A fair comparison helps us know.

Criteria	Needs teaching	Developing with support	Target met independently
Concept / accuracy	Uses unlike units or inaccurate conversion	Correct with a prompt on a familiar case	Correct conversion and comparison on a new case
Application / procedure	Cannot complete the comparison yet	Compares with a model on a familiar case	Completes three comparisons independently
Reason / evidence	Guess or unsupported answer	Gives relevant detail with a prompt	Explains with a specific conversion
Transfer / communication	Reason unclear or method not transferred	Clear with support; new case insecure	Clear reason on a fresh matched case

Evidence seen:

Next teaching step:

Compare Durations Fairly



Our goal

Compare durations fairly.

Convert to one unit. Compare the numbers.

Explain how the conversion proves your answer.

Try Is 3... from a clock time or a duration?

Which is longer: 90 seconds or 2 minutes?



Words we need

Second - minute - hour - day

Equivalent means the same length of time.

Clock time tells WHEN something happens.

Duration is HOW LONG something lasts.

A estimate is a sensible prediction.



A fair comparison

1. Name the two durations.
2. Convert to the SAME unit.
3. Compare the new numbers.
4. Explain why the greater number means longer.



Compare seconds and minutes

90 seconds or minutes?

2 minutes = 120 seconds.

$90 < 120$ so 90 seconds is shorter.

The record uses seconds for both durations.



A larger numeral can mislead

2 days or 3 hours?

4 days = 96 hours.

$4 > 3$, so 2 days is longer.

Compare expressions, not bare numerals.



Pause and decide

Which is longer: 120 minutes or 3 hours?

Choose a common unit.

Which conversion will you show?

Tell a partner before revealing the answer.



Check your reasoning

3 hours = 180 minutes.

120 minutes = 180 minutes.

So 3 hours is longer than 120 minutes.

Both numbers now mean minutes.



Build an equivalent measure

1 hour 30 minutes = 90 + 30 minutes.

What is 90 minutes.

Compare 90 minutes with 100 minutes.

Which is bigger, and by how much?



Model a game turn

Card: 75 seconds or 1 minute?

1 minute = 60 seconds.

75 > 60 so 75 seconds is longer.

A counter is earned only with the correct reason.



Your partner challenge

Card: 30 hours or 1 day?

Write a common unit conversion.

See which duration is longer.

Explain using equal-sized units.



Repair the misrankings

A student says: “2 minutes < 115 seconds because $2 < 115$.”

The units are different.

1 minutes = 120 seconds.

$120 > 115$ so 2 minutes is longer.



Order mixed durations

Order 90 minutes, 2 hours and 110 minutes.

2 hours = 120 minutes.

$90 < 110 < 120$.

Shortest to longest: 90 minutes, 110 minutes, 2 hours.



Choose your route

Support: use a labelled conversion strip.

Core: compare new measure-unit pairs alone.

Extension: add and repair a false comparison.

All routes still convert, compare and explain.



Show what you know

Work independently on three new comparisons.

For each pair, show one conversion, add $<$, $>$ or $=$,

and write a sentence that uses the common unit.

A portfolio alone is not enough.



Reflect on your evidence

Which conversion helped most?

Which comparison needed a second check?

What detail in your work proves your answer?

Choose the next step for practice.



The method to keep

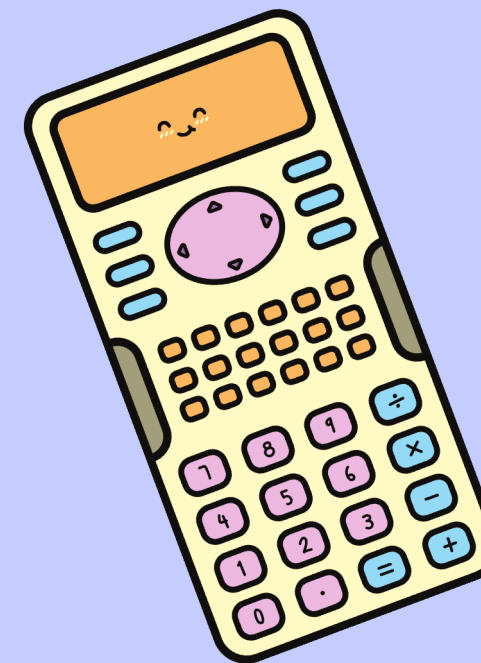
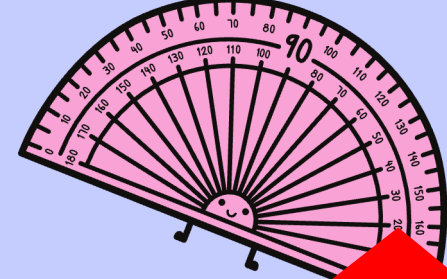
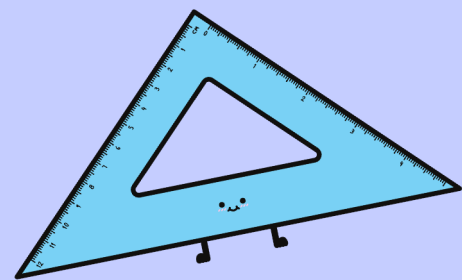
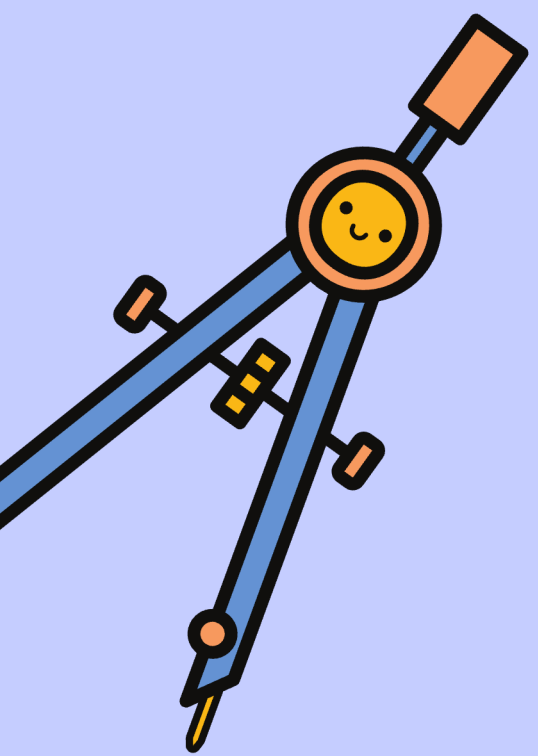
Clock time names WHEN; duration names HOW LONG.

Convert mixed durations into the same unit.

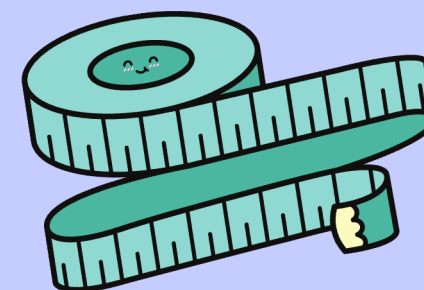
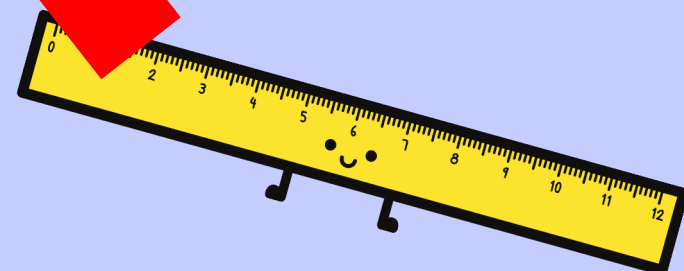
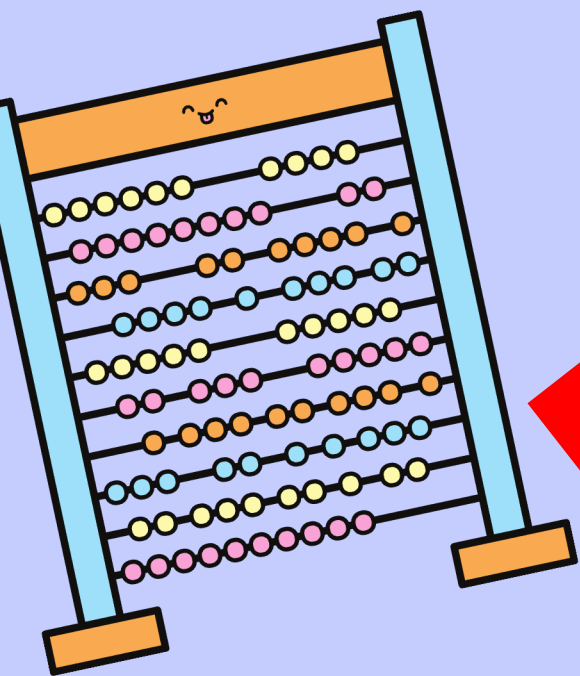
Compare the equal-sized units.

Explain the result with a correct conversion.





Well Done!



Compare Durations Fairly



Question 1

Which is longer 90 seconds or 2 minutes?



Answer 1

2 minutes.

2 minutes = 120 seconds, and $120 > 90$.



Question 2

Which is longer: 2 days or 36 hours?



Answer 2

2 classes
2 classes 48 hours, and $48 > 36$.



Question 3

Why choose a common unit?



Answer 3

Then both numbers represent equal-sized units.

Only this is the number comparison fair.



Question 11

Which is longer: 150 minutes or 2 hours?



Answer !!

150 minutes.

2 hours = 120 minutes; $150 > 120$.



Question 5

Change 30 minutes to 120 minutes.

Compare 20 minutes with 2 hours.



Answer 5

They are equal.

2 hours = 120 minutes; the changed value matches.



Question 6

A claim says 2 minutes < 115 seconds
because $2 < 115$. What is wrong?



Answer e

The clock compares unlike units.

2 minutes = 120 seconds, and $120 > 115$.



Question 7

Game challenge. 1 hour or 1 day?

Which is longer? Explain.



Answer 7

30 hours longer.

$30 > 24$ hours; $30 > 24$.



Question 8

Complete 90 minutes with 2 hours.

Then complete 110 minutes with 2 hours.



Answer 8

Both are shorter than 2 hours.

2 hours = 120 minutes; $90 < 120$ and $110 < 120$.



Question 1

Order the seconds, minute and
90 seconds, shortest to longest.



Answer a

1 minute, 75 seconds, 90 seconds.

1 minute = 60 seconds, and $60 < 75 < 90$.



Question 10

What conversion factor does your order
have from the previous question?



Answer 10

1 minute = 60 seconds.

All three durations can now be compared in seconds.



Question 11

Is 3:15 p.m. the same kind of measure
as 3 hours 15 minutes?



Answer !!

No. 3:15 pm is a clock time: WHEN.

3 hours 15 minutes is an elapsed duration: HOW LONG.



Question 12

Compare day 12 hours with 30 hours.

Give a conversion and reason.

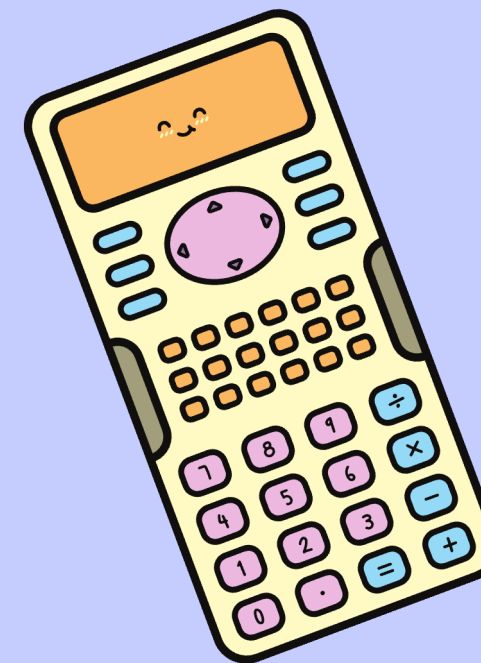
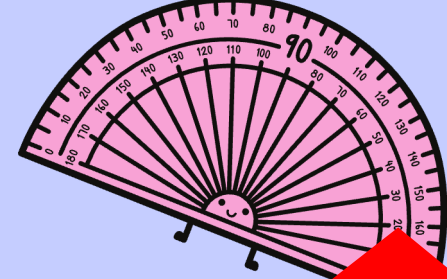
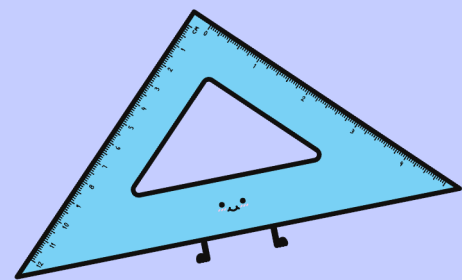
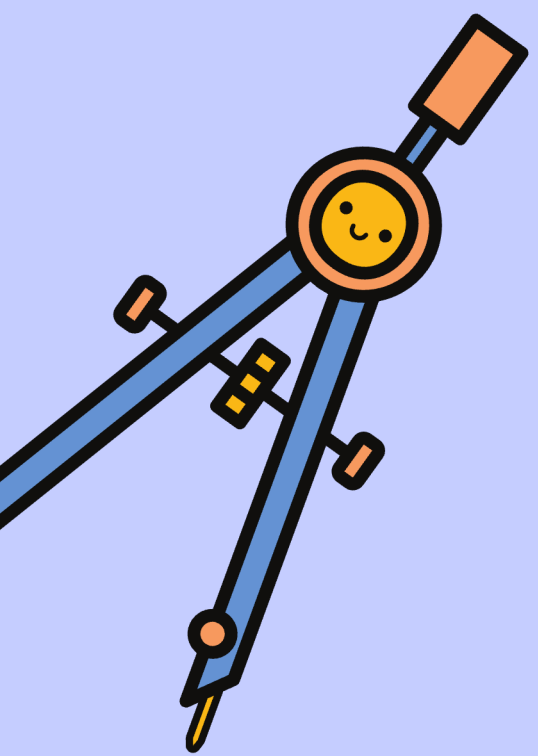


Answer 12

1 day 12 hours = 24 + 12 = 36 hours.

$36 > 30$, so the first duration is 6 hours longer.





Well Done!

