



CLASS 5 MATHS · 2026-27

Class 5 Area, Bar Graphs and Time Worksheet

Area by counting squares, bar graphs, and 12-hour to 24-hour time

90

QUESTIONS

60

MINUTES

8

EXERCISES

This belongs to _____

Date _____

WHAT YOU'LL GET GOOD AT

- Find the area of a shape by counting whole and half squares.
- Read and compare values from a bar graph.
- Convert a time between the 12-hour and 24-hour clock.
- Describe an angle as a quarter, half, three-quarter or full turn.

Take your time, and have a go at every one. If you get stuck, look at the orange box — Ollie has already done one for you.

Class 5 Area, Bar Graphs and Time Worksheet

Area by counting squares, bar graphs, and 12-hour to 24-hour time · 90 questions · tick each box as you finish

Exercise 1 of 8 · 12 questions Each shape below is drawn on squared paper. Pair up half squares to make whole ones, then find the total area in square units. ☐

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

A shape covers 7 whole squares and 8 half squares. What is its area? -> First count the whole squares: 7. Then pair the half squares two at a time to make whole ones: 8 half squares make 4 whole squares. Add the two parts together: $7 + 4 = 11$. So the area is 11 square units.

1) A leaf shape covers 9 whole squares and 4 half squares. What is its area?

2) A star shape covers 14 whole squares and 6 half squares. What is its area?

3) A leaf-shaped figure covers 20 whole squares and 8 half squares. What is its area?

4) A flag shape covers 15 whole squares and 2 half squares. What is its area?

5) A pond-shaped figure covers 30 whole squares and 10 half squares. What is its area?

6) A leaf shape covers 6 whole squares and 4 half squares. What is its area?

7) A butterfly shape covers 12 whole squares and 8 half squares. What is its area?

8) A boat shape covers 18 whole squares and 12 half squares. What is its area?

9) A kite shape covers 5 whole squares and 6 half squares. What is its area?

10) A cloud shape covers 22 whole squares and 4 half squares. What is its area?

11) A tree shape covers 10 whole squares and 10 half squares. What is its area?

12) A fish shape covers 16 whole squares and 2 half squares. What is its area?

Exercise 2 of 8 · 12 questions A bar graph shows the number of story books read by five children in a month: Aarav – 8, Isha – 12, Kabir – 5, Meera – 15, Yusuf – 10. Answer the questions. ☐

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

How many books did Isha and Kabir read together? -> Read each bar's value from the graph: Isha read 12, Kabir read 5. Add them: $12 + 5 = 17$. So together they read 17 books.

1) Who read the most books?

2) Who read the fewest books?

3) How many books did Isha and Yusuf read together?

4) How many more books did Meera read than Kabir?

5) What is the total number of books read by all five children?

6) How many books did Aarav read?

7) Which two children together read exactly 18 books?

8) List the children in descending order of books read (most to fewest).

9) How many more books did Isha read than Aarav?

10) If each child reads 3 more books next month, how many will Kabir have read in total?

11) What is the difference between the highest and the lowest number of books read?

12) How many children read more than 9 books?

Exercise 3 of 8 · 12 questions Convert each time as instructed.

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

Convert 17:20 to 12-hour time. -> Since the hour, 17, is more than 12, it is an afternoon or evening time: subtract 12 to get 5. Keep the minutes the same. So 17:20 is 5:20 pm.

1) Convert 3:00 pm to 24-hour time.

2) Convert 9:45 am to 24-hour time.

3) Convert 15:30 to 12-hour time.

4) Convert 23:15 to 12-hour time.

5) Convert 12:00 noon to 24-hour time.

6) Convert 00:20 to 12-hour time.

7) Convert 7:05 pm to 24-hour time.

8) Convert 6:00 am to 24-hour time.

9) Convert 21:40 to 12-hour time.

10) Convert 12:00 midnight to 24-hour time.

11) Convert 11:59 pm to 24-hour time.

12) Convert 08:08 to 12-hour time.

Exercise 4 of 8 · 12 questions Choose the correct description of the turn.

CHOOSE THE CORRECT ANSWER

HERE'S ONE DONE FOR YOU

The minute hand moves from 3 to 9. What kind of turn is this? (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn -> Picture the clock face: 3, 6, 9 and 12 mark the four quarter-points. Moving from 3 to 9 passes through 6 - that is two of the four quarter-points, which is exactly half the clock face. The answer is (b) half turn.

1) A door opens from closed to fully open, making a straight line. This is a (a) quarter turn (b) half turn (c) full turn (d) no turn

2) The minute hand of a clock moves from 12 to 3. This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

3) A wheel spins all the way around, back to where it started. This is a (a) quarter turn (b) half turn (c) full turn (d) no turn

4) The minute hand moves from 12 to 9 (clockwise-). This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

5) A book is turned a quarter of the way round. This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

6) The minute hand moves from 12 to 6. This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

7) The minute hand moves from 6 to 12. This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

8) The minute hand moves from 9 to 12. This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

9) Facing North, you turn clockwise until you face West. What kind of turn is this? (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

10) Facing East, you turn clockwise until you face West. What kind of turn is this? (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

11) A ceiling fan blade points straight up, then after spinning stops pointing straight down. What is the smallest turn this could be? (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

12) A wheel starts with a mark at the top, and after rolling, the mark is back at the top, having gone all the way around once. This is a (a) quarter turn (b) half turn (c) three-quarter turn (d) full turn

Exercise 5 of 8 · 10 questions Find the mistake in each child's thinking, and write the correct answer.

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

Question: A student converts 12:00 noon to 24-hour time and writes 00:00. Is this right? -> No - 00:00 means midnight, the very start of the day. Noon, the middle of the day, is written as 12:00 in 24-hour time. The student has confused midnight and noon.

1) A shape covers 8 whole squares and 6 half squares. Meera says the area is $8 + 6 = 14$ square units, without pairing the halves. What is the correct area?

2) A bar graph shows Isha read 12 books and Kabir read 5. Yusuf says Isha read 7 fewer books than Kabir. Is this correct?

3) A student converts 15:30 to 12-hour time and writes 5:30 pm. Check this and give the correct time.

4) A student converts 9:45 am to 24-hour time and writes 21:45. What mistake did they make?

5) A student says 00:20 in 24-hour time is 12:20 pm. Is this right?

6) A student says the minute hand moving from 12 to 6 is a quarter turn. Is this correct?

7) A student says a full turn brings an object back facing a different direction than it started. Is this true?

8) The bar graph shows Aarav 8, Isha 12, Kabir 5 and Meera 15 books, and the five children read 50 books in total. A student guesses Yusuf read 5 books. Check this by adding the four known numbers and subtracting from 50.

9) A student says a shape covering 20 whole squares must have a smaller area than one covering 18 whole squares and 6 half squares. Check the second shape's area and see if the student is right.

10) A student says 23:15 in 12-hour time is 11:15 am. What mistake did they make, and what is the correct time?

Exercise 6 of 8 · 12 questions Solve each word problem. Show your working.

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

A tiffin box lid drawn on squared paper covers 11 whole squares and 6 half squares. A shop's delivery van leaves at 16:30 in 24-hour time. First find the lid's area: 6 half squares pair into 3 whole squares, so the area is $11 + 3 = 14$ square units. Then convert the time: since 16 is more than 12, subtract 12 to get 4, so 16:30 is 4:30 pm.

1) A kolam (rangoli) design drawn on squared paper for Diwali covers 14 whole squares and 8 half squares. What is its area, in square units?

2) A cricket pitch drawn on grid paper covers 25 whole squares and 10 half squares. What is its area, in square units?

3) A bar graph shows sweet boxes sold by four shops during a festival: Shop A – 18, Shop B – 24, Shop C – 15, Shop D – 21. Which shop sold the most, and how many more boxes did it sell than the shop that sold the fewest?

4) A train is scheduled to leave at 14:45 in 24-hour time. What is this on a 12-hour clock?

5) A shop opens at 9:30 am and closes at 20:00 in 24-hour time. Write the closing time on a 12-hour clock.

6) A clock's minute hand moves from 12 to 9 while a fan blade turns a quarter turn. Are these two turns the same size? Which is bigger?

7) One garden bed drawn on grid paper covers 9 whole squares and 4 half squares. A second garden bed covers 12 whole squares with no half squares. Which bed is bigger, and by how much?

8) A railway timetable lists a train's departure as 23:50. How many minutes after departure does the clock turn to a new day (00:00)?

9) A bar graph of a family's monthly savings, in hundreds of rupees, reads: January – 5, February – 8, March – 6, April – 9. In which month did they save the most, and how many more rupees than in January?

10) A clock shows 12:00 midnight. After the minute hand completes one full turn, what time will it show, and how many minutes will have passed?

11) A field fenced on grid paper covers 30 whole squares and 14 half squares. What is its area, in square units?

12) A cinema's evening show starts at 19:15 in 24-hour time. What time should you tell a friend if they only understand the 12-hour clock?

Exercise 7 of 8 · 10 questions Answer each question in a sentence or two, explaining how you know. ☐

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

Without converting, how can you tell 09:10 is a morning time? -> In 24-hour time, any hour from 00 up to 11 falls before noon, so 09:10, with an hour of 09, must be in the morning.

- 1) How does pairing half-squares make finding area faster than counting them one at a time? Explain using a shape with 10 whole squares and 8 half squares.
- 2) How do you know a shape covering 15 whole squares must have a bigger area than one covering 10 whole squares and 8 half squares?
- 3) Without converting, how can you tell 15:45 is an afternoon time and not a morning time, just from the hour number?
- 4) Explain why 12:00 in 24-hour time usually means noon, while midnight is written as 00:00 instead.
- 5) How do you know that a taller bar on a bar graph always represents a bigger number, without reading the exact value?
- 6) Without measuring in degrees, how can you tell a three-quarter turn is bigger than a half turn?
- 7) Explain why turning a full turn always brings an object back to face the same direction it started, no matter which way it turns.
- 8) A shape has an odd number of half-squares, like 7. Why can't all of them be paired up perfectly into whole squares?
- 9) If every bar on a graph only ever shows multiples of 5 (5, 10, 15, 20...), how could a bar suddenly showing 23 alert you to a possible mistake?
- 10) How can you tell, just from the hour digits, whether a 24-hour time needs 12 subtracted to become a 12-hour 'pm' time?

Exercise 8 of 8 · 10 questions These questions combine two steps or ask you to work backward. Take your time. ☐

WRITE THE ANSWER

HERE'S ONE DONE FOR YOU

A shape's area is 26 square units, made of 18 whole squares and some half squares. How many half squares does it have? -> The whole squares already give 18 square units, so $26 - 18 = 8$ more square units are needed from the half squares. Since every pair of half squares makes 1 whole square unit, 8 square units need $8 \times 2 = 16$ half squares.

1) A shape covers 40 whole squares and 24 half squares. What is its area, in square units?

2) Two shapes together cover a total of 60 square units. One shape has 35 whole squares and 6 half squares. What is the area of the second shape?

3) A digital clock shows 23:59. One minute later, what will it show in 24-hour time, and what is that in 12-hour time?

4) The time now is 10:20 pm. What time was it exactly 3 hours before now, and what would that be in 24-hour time?

5) One garden plot has an area of 45 square units, made entirely of whole squares. A second plot has 38 whole squares plus some half squares, and both plots have the same total area. How many half squares does the second plot have?

6) A bar graph's tallest bar is exactly double its shortest bar. If the shortest bar shows 12, what does the tallest bar show?

7) The time now is 6:40 am. What will the clock show, in 24-hour time, exactly 6 hours and 20 minutes later?

8) A shape's area is 28 square units. It is made of 20 whole squares and some half squares. How many half squares does it have?

9) A wheel is marked with a dot at the very top. After the wheel makes one and a half full turns, where will the dot be - back at the top, or somewhere else? Explain.

10) It is 21:05 in 24-hour time. What is this on a 12-hour clock, and is it morning or evening?

**All done? How did that feel?**

Colour in a star. Three stars means you could teach it to someone else.



Tricky · Getting there · Easy now



Answer key

For grown-ups

Class 5 Area, Bar Graphs and Time Worksheet · keep this page back until your child has finished.

1. Each shape below is drawn on squared paper. Pair up half squares to make whole ones, then find the total area in square units.

- 1) 11 square units
- 2) 17 square units
- 3) 24 square units
- 4) 16 square units
- 5) 35 square units
- 6) 8 square units
- 7) 16 square units
- 8) 24 square units
- 9) 8 square units
- 10) 24 square units
- 11) 15 square units
- 12) 17 square units

2. A bar graph shows the number of story books read by five children in a month: Aarav – 8, Isha – 12, Kabir – 5, Meera – 15, Yusuf – 10. Answer the questions.

- 1) Meera, 15 books
- 2) Kabir, 5 books
- 3) 22 books
- 4) 10 books
- 5) 50 books
- 6) 8 books
- 7) Aarav and Yusuf ($8 + 10 = 18$ books)
- 8) Meera, Isha, Yusuf, Aarav, Kabir
- 9) 4 books
- 10) 8 books
- 11) 10 books
- 12) 3 children (Isha, Meera and Yusuf)

3. Convert each time as instructed.

- 1) 15:00
- 2) 09:45
- 3) 3:30 pm
- 4) 11:15 pm
- 5) 12:00
- 6) 12:20 am
- 7) 19:05
- 8) 06:00
- 9) 9:40 pm
- 10) 00:00
- 11) 23:59
- 12) 8:08 am

4. Choose the correct description of the turn.

- 1) (b) half turn
- 2) (a) quarter turn
- 3) (c) full turn
- 4) (c) three-quarter turn
- 5) (a) quarter turn
- 6) (b) half turn
- 7) (b) half turn
- 8) (a) quarter turn
- 9) (c) three-quarter turn
- 10) (b) half turn
- 11) (b) half turn
- 12) (d) full turn

5. Find the mistake in each child's thinking, and write the correct answer.

- 1) She forgot to pair the half squares. 6 half squares make 3 whole squares, so the correct area is $8 + 3 = 11$ square units.
- 2) No. Isha read more books than Kabir, not fewer - $12 - 5 = 7$ more, not 7 fewer.
- 3) This is wrong. Since the hour, 15, is more than 12, subtract 12 to get 3. The correct time is 3:30 pm.
- 4) They added 12 even though the time is in the morning. 12 should only be added to pm times. The correct 24-hour time is 09:45.
- 5) No. Just after midnight is in the early morning, so 00:20 is 12:20 am, not pm.
- 6) No. Moving from 12 to 6 covers half the clock face, which is a half turn, not a quarter turn.
- 7) No. A full turn is one complete rotation all the way around, so it always ends facing exactly the same direction it started.
- 8) $8 + 12 + 5 + 15 = 40$, and $50 - 40 = 10$, so Yusuf read 10 books, not 5.
- 9) The second shape's area is $18 + 3$ (from pairing the 6 half squares) = 21 square units, which is bigger than 20 - so the student is wrong.
- 10) They forgot that 23:15 is late at night. The correct 12-hour time is 11:15 pm, not am.

6. Solve each word problem. Show your working.

- 1) 18 square units
- 2) 30 square units
- 3) Shop B sold the most, 9 more boxes than Shop C, which sold the fewest ($24 - 15 = 9$).
- 4) 2:45 pm
- 5) 8:00 pm
- 6) No. Moving from 12 to 9 on the clock is a three-quarter turn, which is bigger than the fan blade's quarter turn.
- 7) The second bed is bigger. The first bed's area is $9 + 2 = 11$ square units; the second is 12 square units - bigger by 1 square unit.
- 8) 10 minutes
- 9) April, ₹400 more than January ($9 - 5 = 4$ hundreds of rupees, which is ₹400).
- 10) It will show 1:00 am (01:00), and 60 minutes will have passed, since one full turn of the minute hand is 60 minutes.
- 11) 37 square units
- 12) 7:15 pm

7. Answer each question in a sentence or two, explaining how you know.

- 1) Pairing groups the half-squares two at a time into whole squares, so instead of tracking 8 separate halves, you only add one number: 8 halves become 4 wholes, so the area is $10 + 4 = 14$ square units - much quicker than counting piece by piece.
- 2) 10 whole squares and 8 half squares gives an area of $10 + 4 = 14$ square units, which is less than 15, so the 15-whole-square shape is indeed bigger.
- 3) Times from 13 onward (written in 24-hour form) are always afternoon or evening, since 12 has already been passed; 15 is well past 12, so 15:45 must be afternoon.
- 4) The 24-hour clock uses 00:00 for the very start of the day (midnight) so it is never confused with noon, and reserves 12:00 for the middle of the day, matching how a 12-hour clock also shows 12 at noon.
- 5) A bar graph draws each bar's height to match its value using the same scale throughout, so a taller bar must represent a larger number than a shorter one drawn on the same graph.
- 6) A three-quarter turn covers three of the four equal quarters that make up a full turn, while a half turn covers only two of those four quarters, so three-quarter is the bigger turn.
- 7) A full turn is one complete rotation all the way around a circle, so by definition it ends exactly back where it started, facing the same way.
- 8) Pairing needs two half-squares to make one whole square. With an odd number like 7, one half-square is always left over without a partner.
- 9) Since 23 is not a multiple of 5, it would not land on any of the graph's marked gridlines, which is a sign to double-check whether the bar was drawn or read correctly.
- 10) If the hour shown is 13 or more, it needs 12 subtracted to become a 12-hour pm time; hours of 12 or less are left as they are (with 12 itself read as noon).

8. These questions combine two steps or ask you to work backward. Take your time.

- 1) 52 square units
- 2) 22 square units (the first shape's area is $35 + 3 = 38$ square units, and $60 - 38 = 22$)
- 3) It will show 00:00, which is 12:00 midnight on a 12-hour clock - the very start of the next day.
- 4) It was 7:20 pm, which is 19:20 in 24-hour time.
- 5) 14 half squares (the second plot needs 7 more square units, and each pair of half squares makes 1 square unit, so $7 \times 2 = 14$ half squares).
- 6) 24
- 7) 13:00
- 8) 16 half squares ($28 - 20 = 8$ more square units are needed, and each pair of half squares makes 1 square unit, so $8 \times 2 = 16$ half squares)
- 9) Somewhere else - at the bottom. One full turn brings the dot back to the top, and the extra half turn then carries it to the opposite side, the bottom.
- 10) 9:05 pm, which is in the evening.

WHILE YOUR CHILD WORKS

- There is no area formula in this worksheet on purpose - Class 5 finds area only by counting squares, and a length-times-breadth shortcut here would be ahead of the syllabus.
- Midday and midnight are the two places most children slip on 12-hour to 24-hour conversion; check those two questions first if something looks off.
- The angle questions describe turns in words rather than degrees, since a protractor is not part of Class 5.

**Spotted a gap while marking?**

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