

Max

Practice workbook

Built from Max's own test results on 62 questions.
2 chapters. One a week works well.

For the marker

Every chapter targets something Max's test showed was worth practising. Work through one chapter a week and the whole workbook takes about ten weeks.

The answer key is for you, not for Max. It is at the very end of this file, after all 2 chapters. If you are printing the workbook for them to work on, leave those last pages out and keep them yourself.

A few questions ask Max to explain their thinking. Those cannot be marked with a tick, so the answer key gives a model answer and what to look for.

Max's chapter 1

Area, perimeter, volume and surface area

"It is not that I am so smart, it is just that I stay with problems longer."

Albert Einstein, the physicist who reshaped our understanding of space and time

This chapter works on something to strengthen.

What this chapter covers: Finds the area of a composite figure; Finds the perimeter of a polygon; Finds the area of a rectangle or square

Worked example

What is the area of this rectangle?

Answer: 24 sq cm

Area of a rectangle is length times width, and 8 times 3 equals 24.

Warm up

Start here. These should feel easy.

1. What is the area of the shaded figure?

Answer: _____ [4]

2. A square has sides of 8 cm. What is its perimeter?

Answer: _____ [4]

3. A square has sides of 5 cm. What is its perimeter?

Answer: _____ [4]

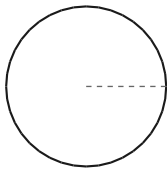
Practice

4. A square has sides of 9 cm. What is its area?

- (1) 36 sq cm
- (2) 72 sq cm
- (3) 18 sq cm
- (4) 81 sq cm

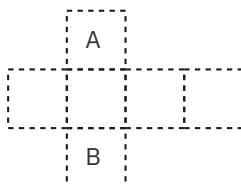
Answer () [1]

5. Choose your own measurements for the radius of this shape. Write each one on the drawing with its unit, for example 6 cm, then use your numbers to work out the circumference.



answer

6. This net folds into a cube. Which face ends up opposite face A?
Write the letter, or shade the face on the picture.



answer

- 7.** A rectangle is 3 cm long and 2 cm wide. What is its area?

First, estimate the answer without working it out exactly.
Then work it out properly. How close was your estimate?

Answer: _____ [2]

- 8.** A rectangle is 5 cm long and 4 cm wide. What is its area?

Answer: _____ [4]

- 9.** A rectangle is 8 cm long and 6 cm wide. What is its perimeter?

Someone says the answer is 28 cm.
Are they right? Circle YES or NO, then say how you know.

Answer: _____ [2]

- 10.** A rectangle is 7 cm long and 6 cm wide. What is its perimeter?

A pupil answered this and got 42 cm.
That is not right. What mistake did they make?

Answer: _____ [2]

- 11.** The area of a square is 169 square cm. What is its perimeter?

Answer: _____ [4]

12. A rectangle has an area of 48 sq cm. Its width is 6 cm. How long is it?

Answer: _____ [4]

13. Match each question to its answer. Write the letter next to the number.

- | | |
|---|----------------------|
| 1) A rectangle has a perimeter of 38 cm. Its width is 8 cm. How long is it? | <input type="text"/> |
| 2) A rectangle has a perimeter of 56 cm. Its width is 7 cm. How long is it? | <input type="text"/> |
| 3) A rectangle 9 by 6 has a 3 by 3 corner cut out. What is the area of the remaining figure? | <input type="text"/> |
| 4) A rectangle 8 by 8 has a 3 by 3 corner cut out. What is the area of the remaining figure? | <input type="text"/> |

- A 45 sq cm
- B 11 cm
- C 55 sq cm
- D 21 cm

14. A rectangle has a perimeter of 56 cm. Its width is 7 cm. How long is it?

Answer: _____ [4]

15. Look at this question: A rectangle 9 by 6 has a 3 by 3 corner cut out. What is the area of the remaining figure?

Write your own question like it, using different numbers.
Then answer your own question.

Answer: _____ [2]

16. A rectangle 8 by 8 has a 3 by 3 corner cut out. What is the area of the remaining figure?

- (1) 73 sq cm
- (2) 55 sq cm
- (3) 64 sq cm
- (4) 25 sq cm

Answer () [1]

17. A square garden has an area of 64 m². A path 1 m wide is built inside along all four edges. What is the area of the inner region left after the path?

- (1) 49 m²
- (2) 36 m²
- (3) 48 m²
- (4) 62 m²

Answer () [1]

Mixed close

These use the same idea in a different situation.

18. A large square has a side of 10 cm. A smaller square with a side of 6 cm is cut out of one corner. What is the area of the remaining shape?

Answer: _____ [4]

19. A rectangular garden is 15 m by 10 m. A path 1 m wide runs around the inside edge of the garden. What is the area of the path?

Answer: _____ [4]

20. A square with side 10 cm has a circle of radius 3 cm cut out of it. What is the area of the remaining region? (Use 3.14 for pi.)

Answer: _____ [4]

How did that go?

- ☐ I could do these on my own
- ☐ I needed to look back at the example
- ☐ I want to do this one again

Max's chapter 2

Units, time and money

"One child, one teacher, one book and one pen can change the world."

Malala Yousafzai, was shot for going to school, and became the youngest Nobel Prize winner in history

This chapter works on something to strengthen.

What this chapter covers: Converts between units of measurement; Solves elapsed time problems; Solves money problems involving change and totals

Worked example

A tank holds 5.8 cubic metres of water. How many litres is that?

Answer: 5800 litres

One cubic metre is 1000 litres, so 5.8 cubic metres is 5800 litres.

Warm up

Start here. These should feel easy.

1. How many milliliters are in 9 liters?

Answer: _____ [1]

2. How many milliliters are in 8 liters?

Answer: _____ [1]

3. How many grams are in 2 kilograms?

Answer: _____ [1]

Practice

4. How many centimeters are in 7 meters?

Answer: _____ [1]

5. A cheetah runs at 30 meters per second. What is this speed in kilometers per hour?

Answer: _____ [2]

6. A lesson starts at 9:00 a.m. and lasts 60 minutes. What time does it end?

Answer: _____ [1]

7. A lesson starts at 9:30 a.m. and lasts 90 minutes. What time does it end?

Answer: _____ [1]

8. Look at this question: A film finished at 4:25 p.m. It lasted 95 minutes. What time did it start?

Write your own question like it, using different numbers.

Then answer your own question.

Answer: _____ [2]

9. A film finished at 3:15 p.m. It lasted 95 minutes. What time did it start?

Answer: _____ [1]

10. A shop opens at 9:40 in the morning and closes at 2:15 in the afternoon. How long is it open?

Someone says the answer is 5 hours 35 minutes.

Are they right? Circle YES or NO, then say how you know.

Answer: _____ [2]

11. A shop opens at 8:50 in the morning and closes at 3:05 in the afternoon. How long is it open?

Answer: _____ [1]

12. How many minutes are there in $13\frac{1}{2}$ hours?

- (1) 360 minutes
- (2) 390 minutes
- (3) 0.1083 minutes
- (4) 650 minutes

Answer () [1]

13. A film starts at 2:50 and lasts 2 hours and 20 minutes. What time does it end?

First, estimate the answer without working it out exactly.

Then work it out properly. How close was your estimate?

Answer: _____ [2]

14. A jacket is reduced from 60 pounds by a quarter. You pay with two 20-pound notes and a 10. How much change?

(1) 15.00

(2) 10.00

(3) 45.00

(4) 5.00

Answer () [1]

15. A store sells notebooks at 3 for \$4. A customer buys 9 notebooks and pays with a \$20 bill. How much change should they receive?

Answer: _____ [3]

16. A worker earns \$18 per hour, and time and a half (\$27 per hour) for hours beyond 40. In a week she works 46 hours. What is her total pay?

Answer: _____ [3]

17. Tickets cost \$9 each. A group has a budget of \$150 and must also pay a \$12 booking fee. What is the greatest number of tickets they can buy?

Answer: _____ [3]

Mixed close

These use the same idea in a different situation.

18. Omar buys a drink for \$4.50 and a roll for \$4.25. How much do they spend in total?

Answer: _____ [2]

19. Gia buys a drink for \$3.75 and a roll for \$5.50. How much do they spend in total?

Answer: _____ [2]

20. A car's fuel tank holds 12 gallons and is currently $\frac{1}{4}$ full. Gas costs \$3.20 per gallon. How much does it cost to fill the tank completely?

Answer: _____ [3]

How did that go?

- ☐ I could do these on my own
- ☐ I needed to look back at the example
- ☐ I want to do this one again

Finished the workbook?

If Max has worked through these chapters and they are starting to feel easy, that is the moment to test again. A new test finds where they are now, and the workbook built from it practises what is still worth practising rather than what was worth practising ten weeks ago.

Your purchase also includes a reading & writing test. If Max has not taken it yet, it is already paid for.

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Answers

These pages are for the marker. Everything before this page is Max's to work through.

Where an item asks Max to explain, we give a model answer and a suggested mark. Those need your judgement rather than a tick.

Max's chapter 1

1. 34 sq cm
2. 32 cm
3. 20 cm
4. 81 sq cm
5. (open response) your judgement
Model: Correct labels in the right places, and a correct circumference.
Marking: One mark for the labels, one for the calculation.
6. B your judgement
Model: A and B are three squares apart along the row of four, so they end up on opposite faces.
Marking: One mark. Accept the shaded square instead of the letter.
7. 6 sq cm your judgement
Model: Exact answer: 6 sq cm. Any sensible estimate near it is fine.
Marking: One mark for the exact answer. Give the estimate mark for any reasonable attempt - the point is the habit, not the accuracy.
8. 20 sq cm
9. YES your judgement
Model: Yes. Correct answer: 28 cm
Marking: One mark for the right verdict, one for a reason that shows they actually checked rather than guessed.
10. 26 cm your judgement
Model: Mistake: calculates the area instead. Correct answer: 26 cm
Marking: One mark for spotting the mistake, one for naming it. Accept any wording that identifies the same error.
11. 52 cm
12. 8 cm
13. 1-B, 2-D, 3-A, 4-C
14. 21 cm
15. (open response) your judgement
Model: Any question of the same kind with different numbers, correctly answered.
Marking: One mark if the question is the same type, one if their own answer to it is right. A harder question than the original is a good sign, not a problem.
16. 55 sq cm
17. 36 m²
18. 64 cm²
19. 46 sq m
20. 71.74 sq cm

Max's chapter 2

1. 9000
2. 8000
3. 2000
4. 700
5. 108 km/h
6. 10:00 a.m.
7. 11:00 a.m.
8. (open response)

your judgement

Model: Any question of the same kind with different numbers, correctly answered.

Marking: One mark if the question is the same type, one if their own answer to it is right. A harder question than the original is a good sign, not a problem.

9. 1:40 p.m.

10. NO

your judgement

Model: No. Mistake: counted the hour at midday twice. Correct answer: 4 hours 35 minutes

Marking: One mark for the right verdict, one for a reason that shows they actually checked rather than guessed.

11. 6 hours 15 minutes

12. 390 minutes

13. 5:10

your judgement

Model: Exact answer: 5:10. Any sensible estimate near it is fine.

Marking: One mark for the exact answer. Give the estimate mark for any reasonable attempt - the point is the habit, not the accuracy.

14. 5.00

15. \$8

16. \$882

17. 15

18. \$8.75

19. \$9.25

20. \$28.80

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