Steady Steps Maths

FREE UNIT TEST · TOPIC 10

FREE SAMPLE · UNIT TEST A

Angles

Unit Test A · 40 marks · about 40 minutes

GRADE 4



Common Core 4.MD.C.5–7

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Name _____ Date _____

UNIT TEST A

Angles

40 marks · about 40 minutes · Common Core 4.MD.C.5–7

Name _____ **Date** _____

Instructions

- Answer **every** question in the space given.
- Show your working: in Sections B and C you get marks for your method, even if the final answer is wrong.
- The number in brackets, like [2], shows how many marks a question is worth.
- You have about 40 minutes. A calculator is **not** needed.
- Check your answers if you finish early.

Your score

Section	Questions	Marks	Your score
A · Quick questions	1–10	10	
B · Show your working	11–16	17	
C · Problem solving	17–18	13	
Total		**40**	

Percentage: _____ % 85%+ excellent · 65–84% good · 45–64% keep practising · below 45% revise the packs first

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SECTION A Quick questions

1 mark each · write your answer in the box

1 How many degrees are in a half turn? [1]

Answer

2 $\frac{5}{8}$ of a full turn = □° [1]

Answer

3 Is an angle of 65° acute, right, obtuse or straight? [1]

Answer

4 A minute hand turns clockwise from 12 to 4. How many degrees is that? [1]

Answer

5 One ray passes 0 on the outer scale of a protractor. The other passes 160 on the outer scale and 20 on the inner. How big is the angle? [1]

Answer

6 Leen reads 45° for an obtuse angle. She used the wrong scale. What is the angle? [1]

Answer

7 An angle is split into parts of 65° and 30°. How big is the whole angle? [1]

Answer

8 A right angle is split into two angles. One is 22°. How big is the other? [1]

Answer

9 Two angles sit on a straight line. One is 37°. How big is the other? [1]

Answer

10 Three angles fill a full turn. Two of them are 135° and 125°. Find the third. [1]

Answer

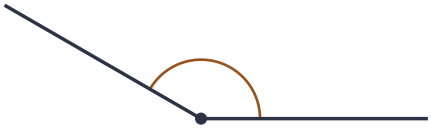
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SECTION B Show your working

Marks are given for your method

11 Measure this angle with a protractor. [2]
(a) Write its size. (b) Is it acute or obtuse?



Answer

12 A wheel has 4 spokes, spaced equally around the centre. [3]
(a) What is the angle between two spokes next to each other?
(b) What is the angle between two spokes that are 2 gaps apart? (c) Is the angle in (b) acute, right, obtuse or straight?

Answer

13 Use a protractor and the rays below. [3]
(a) Draw an angle of 35° on ray (a). (b) Draw an angle of 150° on ray (b).
(c) Add the two angle sizes. Do they make a straight angle?

(a)

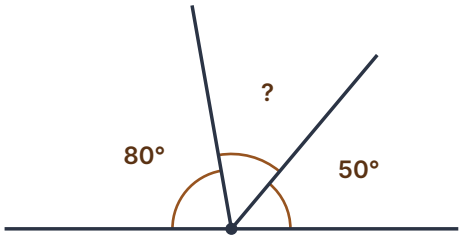
(b)

Answer

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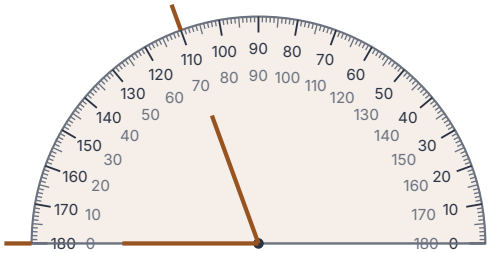
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14 The three angles sit on a straight line. [3]
(a) Write an equation for the missing angle, using a letter for it. (b) Find the missing angle.



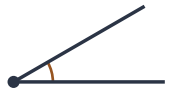
Answer

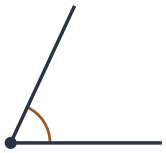
15 Sam says this protractor shows 110°. [2]
(a) Is he right? Explain. (b) What is the angle?

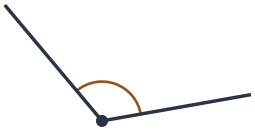


Answer

16 Without measuring, match each angle A, B and C to one of these sizes: 30°, 65°, 120°. [4]
(a) Write the size of each angle. (b) How did you decide which angle is 65°?


A


B


C

Answer

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SECTION C Problem solving

Longer questions with several steps

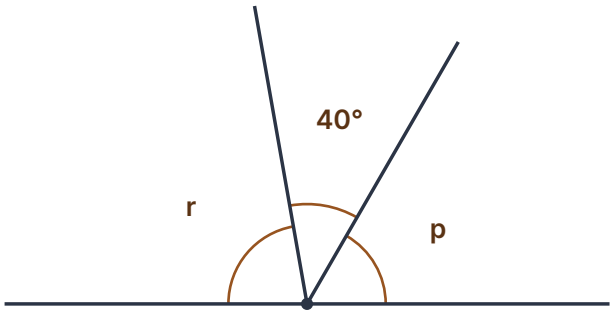
17 Three angles, p, 40° and r, sit on a straight line. The diagram is drawn at its true size. [7]

(a) Measure angle p with a protractor.

(b) Write an equation for angle r.

(c) Find angle r.

(d) Is angle r acute or obtuse? Is it more or less than a right angle, and by how many degrees?



Answer _____

18 A garden sprinkler starts by turning $\frac{1}{6}$ of a full turn. Then it turns another 90°, and then 95° more, all in the same direction. [6]

(a) How many degrees is $\frac{1}{6}$ of a full turn? (b) How many degrees has it turned altogether?

(c) How many more degrees must it turn to make a full turn? (d) Has it turned more or less than a half turn?

Answer _____

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Mark scheme

For parents · give the marks shown; method marks can be given even if the final answer is wrong

Tip: Give method marks generously when the working shows the right idea. If a mistake early on is carried through correctly, give the later marks.

Q	Answer	Marks	How to award the marks
1	180°	1	
2	225°	1	
3	acute	1	
4	120°	1	
5	160°	1	
6	135°	1	
7	95°	1	
8	68°	1	
9	143°	1	
10	100°	1	
11	(a) 150° (± 2°) (b) obtuse	2	(a) 1 mark if within 2° of the answer. (b) 1 mark.
12	(a) 90° (b) 180° (c) straight	3	1 mark each part. Follow through from (a).
13	(a) 35° (b) 150° (c) 185°: no	3	(a), (b): 1 mark each if within 2° (check with a protractor). (c) 1 mark.
14	(a) e.g. 50 + n + 80 = 180 (b) 50°	3	(a) 1 mark for any correct equation. (b) 2 marks: 1 for 180 − 50 − 80.
15	(a) No: it is acute, so less than 90° (wrong scale) (b) 70°	2	1 mark each part.
16	(a) A = 30°, B = 65°, C = 120° (b) e.g. a bit less than a right angle	4	(a) 3 marks: 1 for each angle. (b) 1 mark for a sensible reason.
17	(a) 60° (± 2°) (b) e.g. 60 + 40 + r = 180 (c) 80° (d) acute; 10° less	7	(a) 2 marks if within 2° (1 if within 5°). (b) 1. (c) 2: 1 for 180 − p − 40. (d) 2: type, difference. Follow through from (a).
18	(a) 60° (b) 245° (c) 115° (d) more	6	(a) 1. (b) 2: 1 for adding the three turns. (c) 2: 1 for 360 − (b). (d) 1. Follow through.

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What to revise

Circle the questions your child lost marks on, then go back to the matching part of the pack

Questions	Skill	Revise in	✓ / ×
1, 4	Angles and turns	Pack 1 · Understanding Angles & Degrees, Part 1	
2, 12	Fractions of a turn	Pack 1 · Understanding Angles & Degrees, Part 2	
3	Acute, right, obtuse, straight	Pack 1 · Understanding Angles & Degrees, Part 3	
5, 15	Reading a protractor	Pack 2 · Measuring & Drawing Angles, Part 1	
6	Is it reasonable?	Pack 2 · Measuring & Drawing Angles, Part 4	
7	Adding angles	Pack 3 · Finding Unknown Angles, Part 1	
8	Parts of a right angle	Pack 3 · Finding Unknown Angles, Part 2	
9, 14	Angles on a straight line	Pack 3 · Finding Unknown Angles, Part 3	
10	Equations and problems	Pack 3 · Finding Unknown Angles, Part 4	
11	Measuring angles	Pack 2 · Measuring & Drawing Angles, Part 2	
13	Drawing angles	Pack 2 · Measuring & Drawing Angles, Part 3	
16	Estimating angles	Pack 1 · Understanding Angles & Degrees, Part 4	
17	Measuring and unknown angles	Pack 2 · Measuring & Drawing Angles, Part 2 and Pack 3 · Finding Unknown Angles, Part 3	
18	Turns and unknown angles	Pack 1 · Understanding Angles & Degrees, Part 2 and Pack 3 · Finding Unknown Angles, Part 4	

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