



LINES & ANGLES · GRADE 4 · 4.G.A.1

Draw It and Name It

Name _____ Date _____ Correct _____ / 18

1 Draw - a dot means it stops there, an arrowhead means it keeps going

1. Mark two points anywhere in the box. Label them **A** and **B**. Rule the straight piece that joins them, with a dot at each end.

Write its name, bar and all: _____ *either letter first*

2. Mark two more points, **C** and **D**. Draw the ray that **stops at C** and keeps going past **D**, with an arrowhead on the end that keeps going.

Name it, arrow and all: _____

3. Would ray DC name the very same ray?

yes

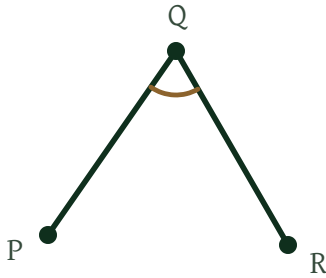
no

Roots of Reason

Draw It and Name It · 4.G.A.1

Name _____ Date _____

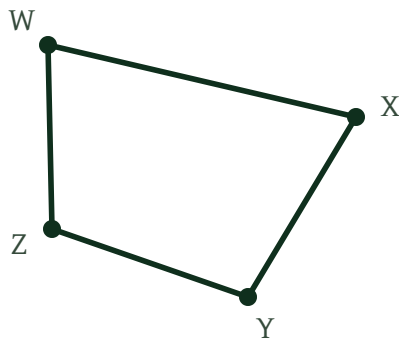
2 Name - three letters for an angle, and the vertex letter sits in the middle



4. This angle has two correct names. Write both. The letter at the corner where the two rays start goes in the middle.

angle _____ angle _____

The curved stroke shows which opening is meant.



5. Walk the corners in order and name all four angles inside this figure. Each name takes three letters.

angle _____

angle _____

angle _____

angle _____

6. In the name **angle DEF**, which letter marks the corner the two rays start from?

D

E

F

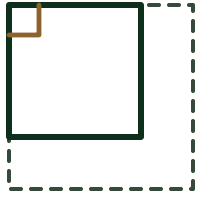
Roots of Reason

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Name _____

Date _____

3 Read the opening - the tilt of the page never changes an angle's name



folded corner

Make a corner tester. Fold a sheet of paper in half, then fold it in half again. The folded corner is a square corner.

Lay one edge of the tester along one arm of the angle, corner on the vertex. If the other arm runs **along** the tester it is **right**. **Inside** the tester is **acute**. **Outside** it is **obtuse**.



7. angle (a)

right

acute

obtuse

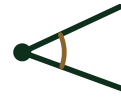


8. angle (b)

right

acute

obtuse



9. angle (c)

right

acute

obtuse



10. angle (d)

right

acute

obtuse



11. angle (e)

right

acute

obtuse



12. angle (f)

right

acute

obtuse

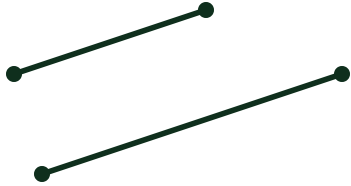
13. One of the other five angles has exactly the same opening as (a). It is drawn at a different tilt. Which letter is it? _____ Test it before you answer.

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4 Find it in a figure - length is free, direction is not

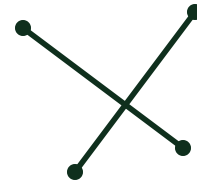


14. pair (a)

parallel

perpendicular

neither

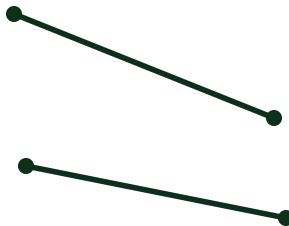


15. pair (b)

parallel

perpendicular

neither

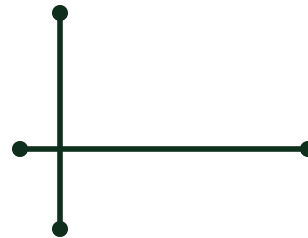


16. pair (c)

parallel

perpendicular

neither

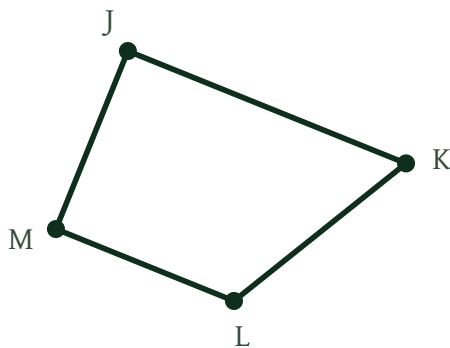


17. pair (d)

parallel

perpendicular

neither



18. On the figure, do all three:

Draw a small square at each right angle corner.

Add matching arrowheads to the two sides that never meet.

Then write the two parallel sides here: _____ and _____

Nothing on this figure lines up with the edge of the page. That does not change any answer.



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Draw It and Name It

Draw

1. Any straight piece with a dot at each end, named *AB* or *BA* with a bar above. Length and slant are free. Accept either order.
2. *CD* with a one-headed arrow above it, drawn stopping at C. · 3. *no*. Ray DC would stop at D instead, which is a different ray.

Name

4. *angle PQR* and *angle RQP*. Q is the vertex, so Q stays in the middle in both.
5. *angle ZWX*, *angle WXY*, *angle XYZ*, *angle YZW*. Any of these may be written backwards as long as the middle letter is unchanged. · 6. *E*

Read the opening

7. (a) *right* 8. (b) *right* 9. (c) *acute* 10. (d) *obtuse* 11. (e) *acute* 12. (f) *obtuse*
13. *b*. It is the same opening as (a), turned 34 degrees on the page.

Find it in a figure

14. (a) *parallel*, though one is about half again as long as the other · 15. (b) *perpendicular*, and neither one runs along the edge of the page
16. (c) *neither*. They are about 10 degrees off, which is close enough to fool the eye and not close enough to be parallel. · 17. (d) *perpendicular*
18. Square corners at *J* and *M*. The parallel pair is *JK* and *ML*, and they are drawn at different lengths on purpose.

Item 13 is the one to mark first. A student who answers (a) right and (b) something else is reading the tilt of the page instead of the opening, and every later angle they meet will be wrong the same way. Hand them the folded corner and have them lay it on both.