LESSON MAKER PRO

Angle Unit Counts

Measure turns with equal, nonstandard angle units.

GRADE 7 · 7.GSR.5.1

7.GSR.5.1 "Measure angles in whole nonstandard units."

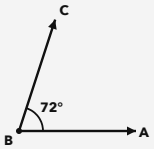
NAME _____ DATE _____

COUNT EQUAL UNITS

A nonstandard unit angle is an angle chosen to be one unit. To measure an angle in whole units, find how many equal unit angles fit exactly inside it. Divide the total angle measure by the measure of one unit angle.

WORKED EXAMPLE

One zap angle measures 9°. How many whole zap angles fit in the angle shown?

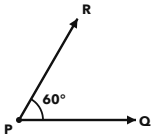


1. The shown angle measures 72°.
2. One zap angle measures 9°.
3. 72 / 9 = 8.

Answer: 8 zap angles

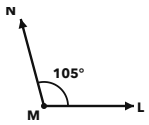
PRACTICE 6 problems

1 One turn-unit measures 12°. How many whole turn-units fit in the angle shown?



ANSWER _____

2 One click angle measures 15°. How many whole click angles fit in the angle shown?



ANSWER _____

3 A unit angle measures 18°. An angle measures 90°. How many whole unit angles fit exactly?

ANSWER _____

4 A glow angle measures 20°. An angle measures 140°. How many whole glow angles fit exactly?

ANSWER _____

5 One beat angle measures 25°. An angle contains 6 whole beat angles. What is the angle measure in degrees?

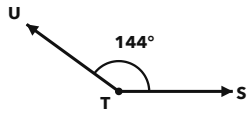
ANSWER _____

6 One snap angle measures 30°. How many whole snap angles fit in a 180° straight angle?

ANSWER _____

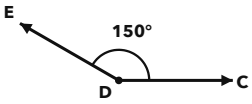
APPLY IT Show your work

1 A game designer uses the angle shown for a character's turn. One game-turn unit measures 24°. How many whole game-turn units does the character turn?



ANSWER _____

2 At dance rehearsal, a spin uses the angle shown. One spin-unit measures 25°. How many whole spin-units are in the spin?



ANSWER _____

CHALLENGE One step up

A video game controller uses a unit angle of 14°, and a turn contains 11 whole unit angles. Another controller uses a unit angle of 22°, and its turn contains 7 whole unit angles. Are the two turns the same size? Explain with measurements.

WORK SPACE AND ANSWER

ANSWER KEY

Angle Unit Counts

GRADE 7 · 7.GSR.5.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	One turn-unit measures 12°. How many whole turn-units fit in the angle shown?	**5 turn-units**
2	One click angle measures 15°. How many whole click angles fit in the angle shown?	**7 click angles**
3	A unit angle measures 18°. An angle measures 90°. How many whole unit angles fit exactly?	**5 unit angles**
4	A glow angle measures 20°. An angle measures 140°. How many whole glow angles fit exactly?	**7 glow angles**
5	One beat angle measures 25°. An angle contains 6 whole beat angles. What is the angle measure in degrees?	**150°**
6	One snap angle measures 30°. How many whole snap angles fit in a 180° straight angle?	**6 snap angles**

PART 2 · APPLY IT

1. **6 game-turn units** The shown turn is 144°. Divide 144 by 24 to get 6.
2. **6 spin-units** The shown spin is 150°. Divide 150 by 25 to get 6.

CHALLENGE

Yes. 11 × 14° = 154° and 7 × 22° = 154°, so both turns measure 154°.

Accept equivalent wording for the named unit angles. For the challenge, students must show that both turns measure 154°.