Name: _____ **Mixed Numbers and Improper Fractions**

Whole numbers are used to count whole things. Fractions are used to count a part of something.

But what do you use if you want to count both whole things and parts of things at the same time?

Here are four squares. How many of them are shaded black?

There are 3 whole black squares and ¼ of another square.

We write this $3\frac{1}{4}$ and we read it as "three *and* one fourth."

3¼ really means 3 + ¼. But we say "and" instead of "plus".

3¼ is what's called a "mixed number". A **mixed number** has two parts, a whole number part and a fractional part.

How many pentagons are here?

There are **2** whole pentagons and **2/5** of another.

We can write this as the mixed number **2 2/5** (two *and* two fifths).

We could also figure out how many pentagons there are by summing up all the pieces. **Each piece** is **1/5** of a pentagon.

Each whole pentagon has five pieces. And there are 2 pieces more.

That's **5/5** + **5/5** + **2/5** = **12/5**. So, **2 2/5** = **12/5**.

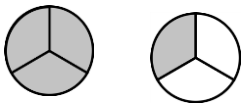
12/5 is what is called an *improper* (not proper) fraction. An **improper fraction** is a fraction that's numerator is *greater* than its denominator. It is *greater* than **1** whole.

A **proper fraction** (like the ones we've been talking about up to now) is *less* than **1** whole. So, its numerator is *less* than its denominator.

Name: _____

Mixed Numbers and Improper Fractions

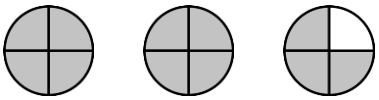
How many shaded circles?



Mixed number:

Improper fraction:

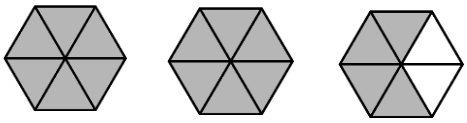
How many shaded circles?



Mixed number:

Improper fraction:

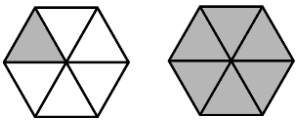
How many shaded hexagons?



Mixed number:

Improper fraction:

How many shaded hexagons?



Mixed Number:

Improper fraction:

Circle the improper fractions:

4/5 11/7 5/4 2/2 9/10 6¾ 10/9 1½ 21/12 11/11

Draw a picture illustrating 5/2:

Draw a picture illustrating 3¾: