

Section 10 – Part 2

SLIDE 14 – Basic real estate math – calculating acreage

As a broker or sales associate there will be times you will have to calculate property dimensions and square footages from the legal description.

In this section we'll wrap up this lesson by covering a couple of easy methods for doing that.

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Section acreage

Remember our quick calculation method.

1. Multiply the denominators of the fractional descriptions together.
2. Divide 640 by the resulting number.

So for this example:

E $\frac{1}{2}$ of the NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 1

$$\frac{640}{(2 \times 4 \times 4)} = 20 \text{ acres}$$

Basic real estate math – calculating acreage

Section acreage

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Section 1
1 Mile

$\frac{1}{4}$ section 160 acres $\frac{1}{2}$ section 320 acres

$\frac{1}{16}$ 40 ac $\frac{1}{8}$ 80 ac

$\frac{1}{32}$ section 20 acres
 $\frac{1}{64}$ section 10 acres

Section 10: Legal Descriptions

Alternative calculation

Another method would be to multiply 640 acres by the different fractions. So for our previous example.

$E\frac{1}{2}$ of the $NE\frac{1}{4}$ of the $NE\frac{1}{4}$ of Section 1

$$640 \times .5 = 320 \times .25 = 80 \times .25 = 20 \text{ acres}$$

Some math constants to remember are:

Area is expressed in feet or yards squared

Area of a rectangle is Area = length x width

Area of a triangle is Area = $\frac{1}{2}$ base x height

1 Acre is 43,560 square feet

So for our sample calculation which told us the subsection was 20 acres, that would work out to be $20 \times 43,560$ or 871,200 sq feet.

Basic real estate math – calculating acreage

Alternative calculation

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Section 10: Legal Descriptions

SLIDES 17 – 24; SUMMARY

Slide 17	<div style="border: 1px solid black; padding: 10px;"> <h3 style="margin: 0;">Summary</h3> <div style="background-color: #4a7ebb; color: white; padding: 2px; margin-bottom: 5px;">PURPOSE OF LEGAL DESCRIPTIONS</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; border-right: 1px solid black; padding: 5px;">Legal description</td> <td style="padding: 5px;"> <p>Accurately locates and identifies the boundaries of the subject parcel to a degree acceptable by courts of law in the state where the property is located.</p> <p>A legal description identifies the property as unique and distinct from all other properties.</p> <p>Systems of legal description, in theory, facilitate transfers of ownership and prevent boundary disputes and problems with chain of title and are required for:</p> <ul style="list-style-type: none"> Public recording Creating a valid deed of conveyance or lease Completing mortgage documents Executing and recording other legal documents </td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">Must include</td> <td style="padding: 5px;"> <p>Language defined by the survey system being used that accurately identifies the boundaries of the property.</p> </td> </tr> </table> <div style="background-color: #4a7ebb; color: white; padding: 5px; margin-top: 10px; display: flex; justify-content: space-between; align-items: center;"> Section 10: Legal Descriptions </div> </div>	Legal description	<p>Accurately locates and identifies the boundaries of the subject parcel to a degree acceptable by courts of law in the state where the property is located.</p> <p>A legal description identifies the property as unique and distinct from all other properties.</p> <p>Systems of legal description, in theory, facilitate transfers of ownership and prevent boundary disputes and problems with chain of title and are required for:</p> <ul style="list-style-type: none"> Public recording Creating a valid deed of conveyance or lease Completing mortgage documents Executing and recording other legal documents 	Must include	<p>Language defined by the survey system being used that accurately identifies the boundaries of the property.</p>						
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Summary

TYPES OF LEGAL DESCRIPTIONS	
Range	The north-south strip of land formed by two range lines is called a range.
Township lines	Run east-west every 6 miles.
Tier	The east-west strip of land formed by two township lines.
Township	Each square of the grid is a township. The townships are numbered in relationship to the direction and position of the township to the principal meridian and the base line.
Section	The rectangular survey system divides a township into thirty-six (36) squares called sections. Each side of a section is one mile in length.
Correction lines	To compensate for the curvature of the earth correction lines occur every 24 miles north and south of a base line.
Guide meridian	There is also a guide meridian every 24 miles to the east and west of the principal meridian.

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TYPES OF LEGAL DESCRIPTIONS	
Section sizing	The size in acres of a subsection of a township is a fraction of 640 acres, since there are 640 acres in a section. Sections are further subdivided by fractions of 640 acres. Examples: 1. SE 1/4 of Section 2. W 1/2 of the NW 1/4 of Section 3. E 1/2 of the NE 1/4 of the NE 1/4 of Section
Subsections can be anded together	For example: W 1/2 of the NW 1/4 of Section 1 "AND" E 1/2 of the NW 1/4 of Section 1
Government lots	Irregularly shaped sections due to water areas or other property usage such as military installation or native lands. Can be further describes with metes and bounds.

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Summary

TYPES OF LEGAL DESCRIPTIONS	
Lot and Block Survey Method	Sometimes called the recorded plat method, is used to describe properties in residential, commercial, and industrial subdivisions. Tracts of land are subdivided into lots and blocks and shown on a survey map called a plat.

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Summary

ASSESSOR'S PARCEL NUMBER

Purpose	To aid in the assessment of property for tax collection each piece of property, or parcel, is given a parcel number. Assessor's Parcel Number (APN) are usually assigned by the local taxing authority, city or county, where the property is located.
Plat maps	Tax maps that show parcel numbers and locations are legal documents recorded with the county the property is located. As public records, these maps are indexed and searchable in a public records directory online.
Assessment rolls	The county tax assessor maintains a complete record of every parcel in the county with the listed owner's name and address of record and the assessed value of the land and structures on that property. All property, developed and undeveloped, should be listed on the assessment rolls.

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Summary

PREPARATION AND USE OF SURVEYS

Bench mark	The term bench mark originates from the horizontal marks surveyors chiseled in stone structures to mark an elevation above sea level. Each benchmark disc will include a permanent identifier (PID) that the surveyor can use to call up data about that mark. Surveyors will take a reference elevation off the closest bench mark to map surrounding elevation changes in their survey.
Datum	The elevation level pulled from the bench mark and used to assign all other level elevations within the survey area.

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