1/6/2020

8.1 Find a Place to Live:

Apartment: renting

Tenant: renter

Landlord: owner of rental

Furnished: w/ furniture

Unfurnished: own furniture

Lease: Contract b/t landlord & tenant

→ ① monthly payment (stays the same)

→ ② deposit (1 month of payment)

→ ③ Term of Lease
6, 12, 18, 24 months

→ ④ # of people living in dwelling

→ ⑤ Rules of community

* → ⑥ Maintenence schedule

→ ⑦ Parking

→ ⑧ Lease expires (ends)
→ sign new lease (Locks in cost)
→ go month-to-month

→ ⑨ Evicted:
→ specifics (Please read before signing)

→ (10) Pets

Single-Family Home:

→ Lease, purchase option

$800 x 12 = $9600
x 4

$38,400

1% payments

equity

Condominium:

individuals unite is owned or rented.

Rental Codes:

ba or bth - bathroom

br - bedroom

dw - dishwasher

DR - dining room

EIK - eat-in-Kitchen

elev. - elevator

gar. - garage

h/w - hardwood floors

incl. ht/hw - included heat & water

mint. excellent condition

renov. - renovated

rm - room

stu - studio

spac - spacious

W/C - walk-in Closest

W/D - Washer/dryer

W/D HKup - Washer/dryer hookup

W/W - wall-to-wall carpet

yd - yard

1/8/2020

8.2 Read a Floor Plan

2-D Area

$A = b \cdot h$

$(l \cdot w)$

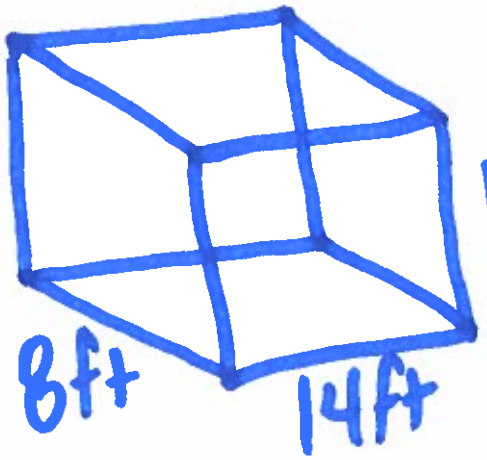
$A = 10 \cdot 12$

$A = 120\ ft^2$

3-D Volume

$V = l \cdot w \cdot h$

$(b) \cdot (h)$



$V = 8 \cdot 14 \cdot 16$

$V = 1792\ ft^3$

Ex 1 $\frac{1}{4}$ in = 1 foot

$23\frac{1}{2}$ inches

Cost $ 2.10 per foot

$$\frac{0.25 \text{ in}}{1 \text{ ft}} = \frac{23.5 \text{ in}}{x \text{ foot}}$$

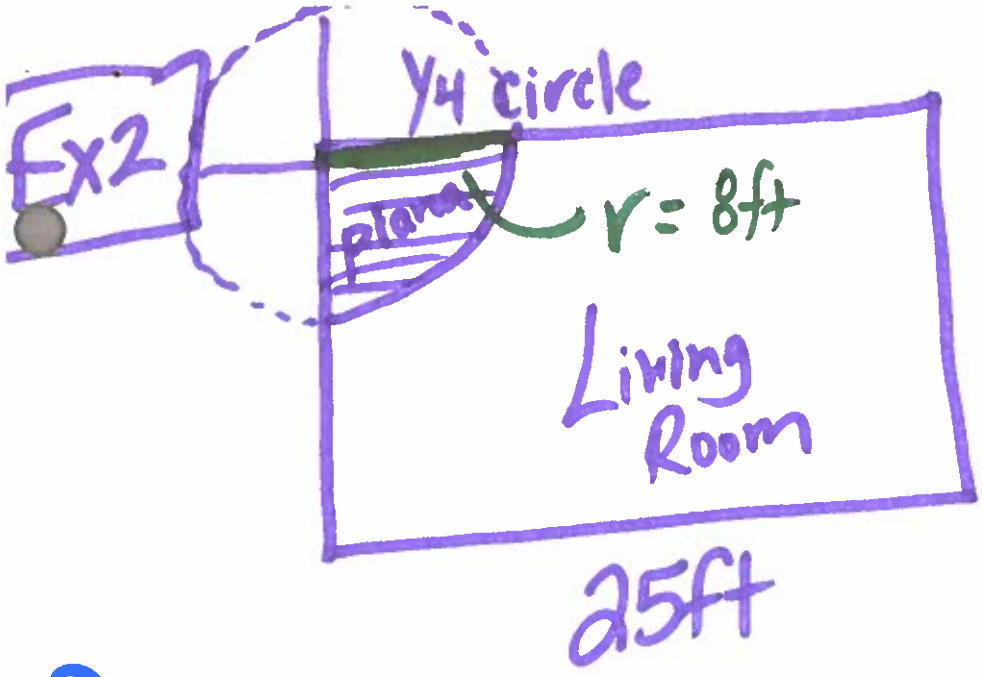
$$\frac{0.25x}{0.25} = \frac{23.5}{0.25}$$

$$x = 94 \text{ ft}$$

94 ft

x 2.10 per foot

$197.40



carpet
$9.55 per ft²

① LR = $A = b \cdot h$

$A = 25 \cdot 16$

$A = 400\,ft^2$

② Area circle

$A = \frac{\pi r^2}{4}$

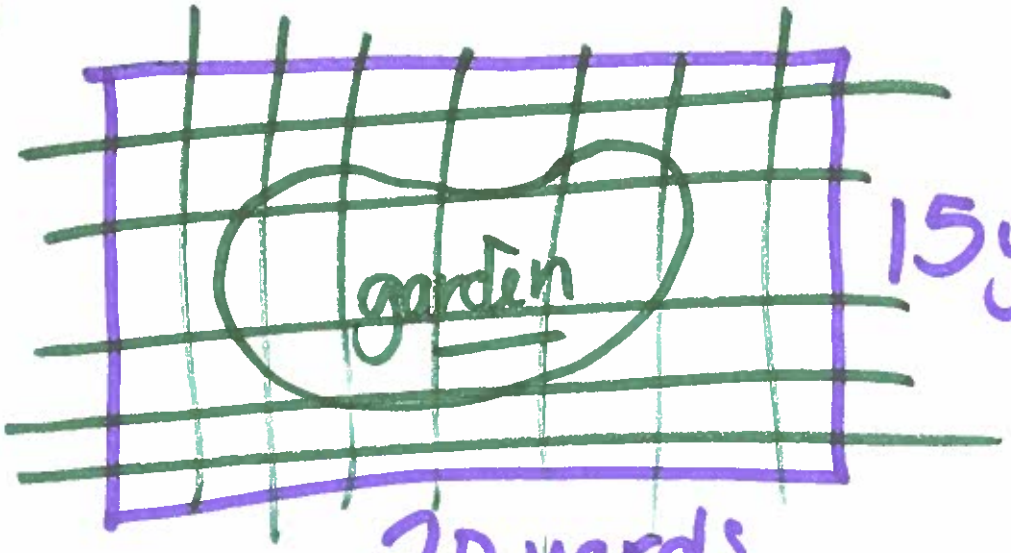
$A = \frac{\pi (8^2)}{4}$

$A = \frac{64\pi}{4}$

$A = 50.24\,ft^2$

③ 400.00
− 50.24
349.76
≈ 350ft²
× 9.55
$3342.50

Ex 4



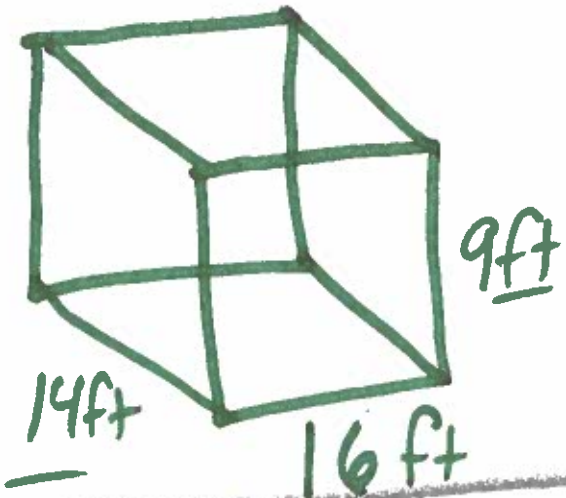
① Area of rectangle

$20 \cdot 15$

300 yds

$$\frac{\#\text{ of pts inside the region}}{\text{total \# of random pts.}} = \frac{\text{area of irregular}}{\text{Area of rectangle}}$$

Ex 6



Mike's Room

Well ins.
West

BTU (British Thermal Rating)

- Formula = $\frac{W \cdot H \cdot I \cdot L \cdot E}{60}$

W-width
h=height
i=insulation
l=length
e=exposure

$= 14 \cdot 9 (10) \cdot 16 \cdot (20)$

$= 6720$

= 7000 BTU's

Well insulation $i = 10$

crappy $i = 18$

exposure

N - e = 16

E - e = 17

S = e = 18

W = e = 20

1/13/2020

8.3 Mortgage Application Process

Market Value: amount for which your home could be sold.

Property Taxes: (real estate taxes)
assessed value used to determine
but Not same as market value.
→ schools, roads, police, gov't, etc.

Down payment: amount down at time of sale.

Mortgages: a loan for the purchase of a home. mins down payment.

2-3
borrowers
30%
$1900
↓ 47%
DTI
$4800

Average

6-8
borrowers
+50%
at 1900
→ 80%
$2800
DTI

High-Risk

1 month,
2 month
3 month
3 no risk
6-8 months

1, 2, middle
H.R.

low 2008
2009

$500,000
$100,000
$400,000 Home Equity Line

→ Fixed Rate: 15 to 30 loans
: Annual % rate remains the same throughout duration.

(No pre-payment penalty)

→ Adjustable Rate: : monthly payment
: Annual % rate changes based on prime interest rates.

→ Foreclosure: bank takes possession of the home & sells it off to pay the debts.
: FICO score drops Hundreds!

Front-end ratio: monthly housing expenses to gross incom

DTI

DTI = monthly housing expenses / monthly gross income

= 28% or Below

Balloon Mortgage: lowest payment for few years... pay entire loan off.

Interest Only Mortgage: only pay interest duration of the loan.

NOT pay off house

Escrow: bank hold insurance : property tax ! pay each for you.

"1600.00

↘ 350 taxes : insurance

↘ +750 interest

↘ +500 loan

done for today

pgs. 408-409

#3-9

Ex 1 pg 402

$190,000 (30 yrs) APR 6.4%

M = monthly payment
R = interest rate
t = # of years
P = principal

FORMULA:

$$M = \frac{P\left(\frac{r}{12}\right)\left(1+\frac{r}{12}\right)^{12t}}{\left(1+\frac{r}{12}\right)^{12t}-1}$$

$$M = \frac{190{,}000\left(\frac{.064}{12}\right)\left(1+\frac{.064}{12}\right)^{12(30)}}{\left(1+\frac{.064}{12}\right)^{12(30)}-1}$$

$\approx \$1{,}188.46$ monthly payment.

30 yrs = 360 months

1188.46
x 360

$427,846.60

loan $190,000.00

$237,845.60
interest

Ex3 Insurance
Taxes
mortgage } Escrow

monthly mort payment

$ 1233.56 ~~semi-annual tax bill~~

~~1233.56 2ND portion~~

$ 5,206 semi-annual tax
5,206 2ND

5206
+5206
10412

12) 10412 = $867.67 month (tax)

$ 1,080 yearly (insurance)

12) 1080 = $90 month

$1233.56 + 90 + 867.67

= $2191.23 monthly

yes

Debt to income = monthly expense / gross income (monthly)

12 | $166,988 income

$13,915.67

m Mort $1544.00

Ann tax $9888.00

per ins. $1,007.00

Bills $510.00 car payment per month

$ Bank Lend $210,000

12 | 9888

$824 monthly

Allow 36%

$5,100.00 per month

12 | 1007 $83.92 m.

Monthly

$1544.00 mort

$824.00 tax

$83.92 ins

$510.00 car pay.

$5100.00 CC

$8061.92

DTI = 8061.92 / 13,915.67

DTI = 0.579

58%

NO LOAN

- Credit score

760↑ great

D.T.I

lower than 36%

58% NO LOAN

now!

760↑ 4% APR 28% DTI

Ex 6 6.1% 15yrs. $300,000

Balloon Interest only

$$M = 300{,}000 \left(\frac{.061}{12}\right)\left(1+\frac{.061}{12}\right)^{12(15}$$

$$\left(1+\frac{.061}{12}\right)^{12(15)} - 1$$

$\approx \$2547.81$

15yrs x 12months
= 180 payments

2547.81
x 180

$458,605.80

458,605.80
-300,000.00

$158,605.80 interest only

Last Balloon
$300,000

$300,000

traditional bank

→ fees $1500 - !
• 1500 - 3300

package

Freddie Mac
Fannie Mae (gov't lenders)

or

pay banks collect money make statement
1% - 5% loan

CWK:
pgs. 408-409
#3-9 ALL

1/15/2020

8.4 Purchase a Home

Reoccuring Costs: Regular basis

Non-reoccuring Costs: one time ~~time~~ cost

Closing (signatures): buyer, seller, attorneys, bank employee, title company

Closing costs: loan, title company, taxes
- ½ buyer
- ½ seller

Earnest money Deposit: Good faith deposit paid to seller to show serious interest in the home.

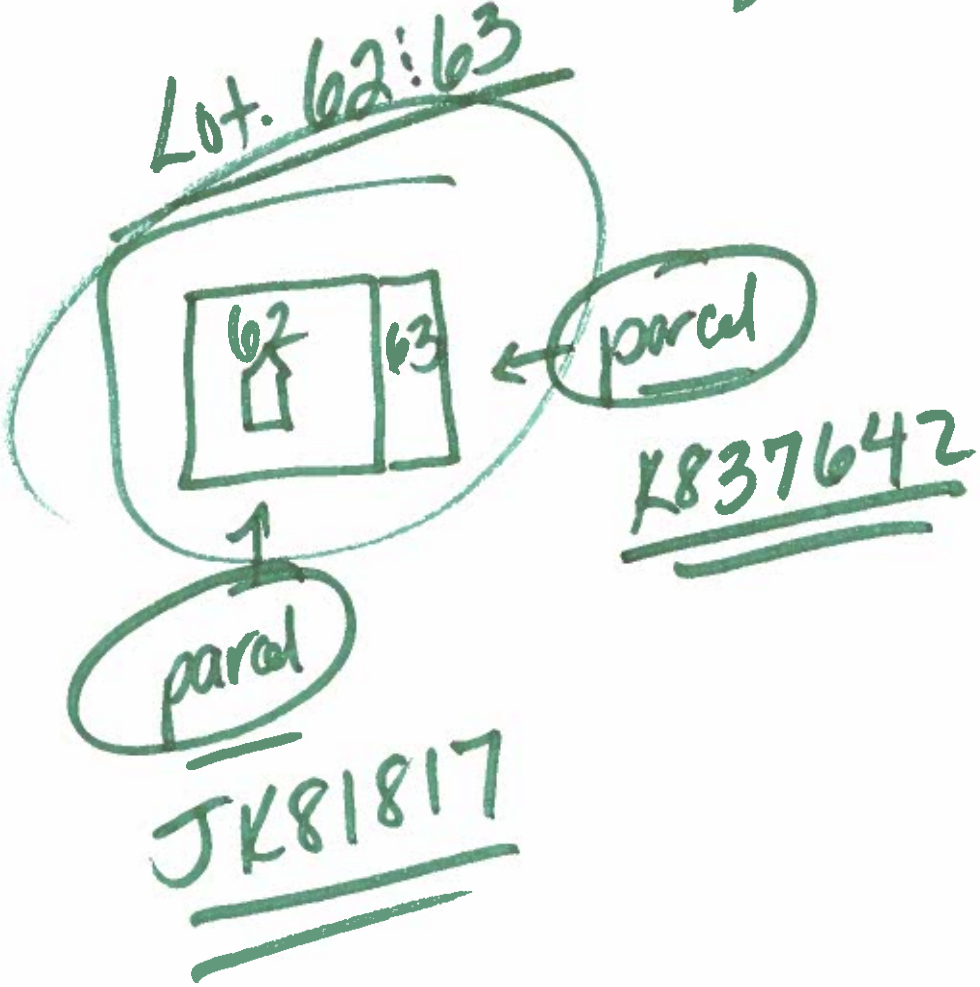
origination fees: lending institution paperwork

Title: legal claim of ownership
→ Banks keeps this until paid off.

Points: pay down your interest
$1,000 per 0.2%

Pre-paid Interest: interest paid in rears

Transfer tax: fee charged to transfer title from seller to buyer.



1/16/2020

8.4 day 2

Ex 1 $600,000 home

7.25% APR
15% down
Sept. 6 closing

Down payment

$600,000 × 0.15
+ 90,000

Loan Amount

600,000 − 90,000 = $510,000

Annual Interest

$510,000 × 0.0725 = $36,975
interest

Interest per day

$36,975 ÷ 365 = $101.30

tax in Sept.

101.30 × 24 days left in Sept = $2,431.20
Sept. interest pre-paid at closing

Ex 2 2%-7% of purchase price at closing.

600,000 x 0.02 = $ 12,000

600,000 x 0.07 = $ 42,000

Realistic $ 200,000 x 0.02 = $ 4,000

$ 200,000 x 0.07 = $ 14,000

Ex 3 $300,000 15 yr. mort 5.75% APR

Formula for Ammonitization

$\frac{r}{12} \div 100\%$ (months) $\Rightarrow \frac{r}{12} \cdot \frac{1}{100} = \boxed{\frac{r}{1200}}$

New monthly payment formula w/ ammor.

$$M = P\left(\frac{\frac{r}{1200}\left(1+\frac{r}{1200}\right)^{12t}}{\left(1+\frac{r}{1200}\right)^{12t}-1}\right)$$

$$= \frac{300{,}000}{1}\left(\frac{\frac{5.75}{1200}\left(1+\frac{5.75}{1200}\right)^{12(15)}}{\left(1+\frac{5.75}{1200}\right)^{12(15)}-1}\right)$$

$$(300{,}000)(5.75/1200)(1+5.75/1200)^{12\cdot15}$$

$$= 3398.539107$$

$$(1+5.75/1200)^{12\cdot15} - 1$$

$$= 1.364201118$$

$$\frac{3398.539107}{1.364201118} =$$

$$\$\ 2491.23$$

1/17/2020

8.5 Rentals, Condos, & Co-ops

Condominium: home ownership where each unit is individually owned.

- **maintenence fee:** condo owners charged fees for maintenence of building, yards, pools, etc.

Co-op apartmut: investers purchase shares & allow them occupy the apartments.

- **Timeshares;**

Board of Directors: where business matters are manage by people elected by homeowners.

HOA

Landominiums: owner owns land & you build home on it + HOA fee.

→ leasehold (30yrs)

Ex1

$912
.15

$136.80 taxes
X 12 months

$1641.60 taxes

Ex2

50,000 — 550 owns shares

$\frac{550}{50{,}000} = 1.1\%$

ie4 $1,900 rent ↑ 4.1%

$y = 1900(1 + 0.041)^{13-1}$

$y = \$3077.20$ 14TH year

ie6 ~~1995 – $98,000~~ borrowed $75,000

chopped $61,000

equity $6744 payment

Balance of Loan

$75,000 - 6744 = \$68,256$ (loan)
payments

$68,256 - 61,000 =$ $7256 left to pay bank

Financial Math

pgs. 428-429

#2-7; 14