

Study the following.

convert (kuhn-**vurt**) – the change from one thing to another. When you are talking about measurement, you are changing from one unit of measure to another unit of measure. (I want to convert from minutes to seconds.)

conversion (kuhn-**vur**-shuhn) – a change from one thing to another. (I had no trouble with the conversion of days to weeks.)

Say each word out loud and write it in the blank.

convert _____

conversion _____

Write each definition in your own words.

convert

conversion

Write two sentences using each word.

convert

1.

2.

conversion

1.

2.

Study the following. Review of time units of measure.

60 seconds = 1 minute

60 minutes = 1 hour

24 hours = 1 day

7 days = 1 week

52 weeks = 1 year

365 days = 1 year

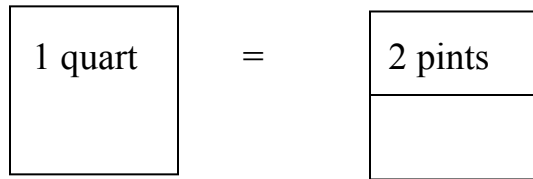
Make flash cards to study these if you don't know them.

Study the flash cards every day for at least a week.

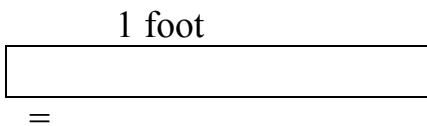
Study the following.

When converting, you are changing the units of measure, not the actual amount of what you have.

Example:



Same amount, with different units of measure.



12 inches



Same length, with different units of measure.

Draw an example of 4 quarts = 1 gallon.

Draw an example of 1 yard = 3 feet.

Study the following.

There are two parts to converting a unit of measure to another unit of measure.

Part 1 is figuring out the relationship between the original unit of measure and the new one.

Example: convert 14 days, to weeks.

Ask yourself what the relationship is between the two units of measure. Days is the original unit of measure, and weeks is the new one.

The relationship between days and weeks is:

There are 7 days in 1 week.

Answer these questions related to Part 1.

1. What is the relationship between hours and days? _____
2. What is the relationship between days and years? _____
3. What is the relationship between hours and minutes? _____
4. What is the relationship between seconds and minutes? _____
5. To convert 48 hours to days, what relationship do you need to know?

6. To convert 240 minutes to hours, what relationship do you need to know?

7. To convert 4 years to weeks, what relationship do you need to know?

Study the following.

Part 2 is figuring out whether to multiply or divide.

If your original unit of measure is a larger size (like weeks), and you are changing it to a smaller unit of measure (like days), the number of units will be larger, so you multiply the original number by the relationship number.

If your original unit of measure is a smaller size (like days), and you are changing it to a larger unit of measure (like weeks), the number of units will be smaller, so you divide the original number by the relationship number.

Example: Convert 2 weeks, to days.

Part 1: the relationship is 1 week = 7 days

Part 2: Weeks are larger than days, so the number of units will be larger, so you multiply.

Example: Convert 14 days, to weeks.

Part 1: the relationship is 1 week = 7 days

Part 2: Days are smaller than weeks, so the number of units will be smaller, so you divide.

Fill in the blanks.

1. What is part 1 for converting units? _____

2. What is part 2 for converting units? If your original unit of measure is a _____ size, and you are changing it to a _____ unit of measure, the number of units will be _____ so you _____ the original number by the relationship number.

3. If your original unit of measure is a _____ size, and you are changing it to a _____ unit of measure, the number of units will be _____ so you _____ the original number by the relationship number.

Answer these questions related to Part 2.

1. If my original unit of measure is seconds, and I want to convert to minutes, do I multiply or divide? _____
2. If my original unit of measure is years, and I want to convert to days, do I multiply or divide? _____
3. If my original unit of measure is hours, and I want to convert to minutes, do I multiply or divide? _____
4. If my original unit of measure is weeks, and I want to convert to years, do I multiply or divide? _____

Convert the following using multiplication.

1. 3 minutes = _____ seconds
2. 4 hours = _____ minutes
3. 2 days = _____ hours
4. 5 weeks = _____ days
5. 2 years = _____ weeks
6. 2 years = _____ days

Convert the following using division.

1. 120 seconds = _____ minutes
2. 180 minutes = _____ hours
3. 48 hours = _____ days
4. 28 days = _____ weeks
5. 104 weeks = _____ years
6. 730 days = _____ years

Convert the following.

1. 3 yards = _____ feet
2. 24 inches = _____ feet
3. 6 feet = _____ inches
4. 32 ounces = _____ pounds
5. 4 cups = _____ pints
6. 2 gallons = _____ quarts

Study the following.

Drawings can also help you figure out whether to multiply or divide.

Example: Convert 2 weeks, to days.

Part 1: the relationship between weeks and days is there are 7 days in one week.

1 week

1	2	3	4	5	6	7
---	---	---	---	---	---	---

days

Part 2:

2 weeks can be shown as follows.

1 week	2 weeks
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Replacing each week with 7 days gives the following.

1	2	3	4	5	6	7	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---	---	---	---	---	---	---

You can see you need to multiply, to get the answer.

2 weeks times 7 = 14 days.

Solve the following using drawings.

1. Convert 2 yards, to feet.

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2. Convert 3 quarts to pints.

3. Convert 2 feet, to inches.

Study the following.

Here is an example of a drawing showing division.

Example: Convert 14 days, to weeks.

Part 1: the relationship between weeks and days is there are 7 days in one week.

1 week

1	2	3	4	5	6	7
---	---	---	---	---	---	---

days

Part 2:

14 days can be shown as follows

1	2	3	4	5	6	7	8	9	10	11	12	13	14
---	---	---	---	---	---	---	---	---	----	----	----	----	----

Replacing each group of 7 days, with one week gives the following.

1 week	2 weeks
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You can see you need to divide, to get the answer.

14 days divided by 7 = 2 weeks.

Solve the following using drawings.

1. Convert 6 feet, to yards.

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2. Convert 6 pints, to quarts.

3. Covert 24 inches, to feet.

Study the following.

Sometimes exact drawing are too difficult because the numbers are too large.

You can do rough sketches as shown below.

Example: Convert 3 minutes, to seconds.

Part 1: The relationship between minutes and seconds is, there are 60 seconds in one minute.

1 minute

1,2,3.....60 seconds

Part 2:

3 minutes can be shown as the following.

1 minute	2 minutes	3 minutes
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Replacing each minute with 30 seconds gives the following.

1,2,3,...30 seconds	1,2,3,...30 seconds	1,2,3,...30 seconds
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You can see you need to multiply, to get the answer.

3 minutes times 30 = 90 seconds.

Solve the following using drawings.

1. 21 days = _____ weeks

2. 120 seconds = _____ minutes

3. 4 minutes = _____ seconds

4. 104 weeks = _____ years

5. 2 years = _____ days

6. 240 minutes = _____ hours

7. 48 hours = _____ days

Convert the following using multiplication.

1. 2 feet = _____ inches
2. 3 feet = _____ inches
3. 3 yards = _____ feet
4. 5 yards = _____ feet
5. 8 yards = _____ feet
6. 2 yards = _____ inches
7. 3 yards = _____ inches
8. 5 feet = _____ inches
9. 2 miles = _____ feet
10. 3 miles = _____ feet
11. 4 pints = _____ cups
12. 5 pints = _____ cups
13. 6 quarts = _____ pints
14. 8 quarts = _____ pints
15. 3 gallons = _____ quarts
16. 6 gallons = _____ quarts
17. 3 pounds = _____ ounces
18. 2 tons = _____ pounds
19. 2 pounds = _____ ounces

Convert the following using division.

1. 24 inches = _____ feet
2. 36 inches = _____ feet
3. 72 inches = _____ yards
4. 6 feet = _____ yards
5. 12 feet = _____ yards
6. 10560 feet = _____ miles
7. 32 ounces = _____ pounds
8. 96 ounces = _____ pounds
9. 4000pounds = _____ tons
10. 12000 pounds = _____ tons
11. 12 quarts = _____ gallons
12. 16 quarts = _____ gallons
13. 6 pints = _____ quarts
14. 10 pints = _____ quarts
15. 6 cups = _____ pints
16. 20 cups= _____ pints

Convert the following using multiplication or division.

1. 24 inches = _____ feet
2. 3 gallons = _____ quarts
3. 4 pounds = _____ ounces
4. 4 cups = _____ pints
5. 3 tons = _____ pounds
6. 18 feet = _____ yards
7. 2 miles = _____ feet
8. 6 pints = _____ quarts
9. 32 ounces = _____ pounds
10. 8000 pounds = _____ tons
11. 16 quarts = _____ gallons
12. 6 yards = _____ feet
13. 72 inches = _____ yards
14. 4 pounds = _____ ounces
15. 8 pints = _____ cups
16. 2 yards = _____ inches
17. 5 quarts = _____ pints
18. 48 inches = _____ feet