Money - Hire Purchase

Pre-requisites:

- ✓ **Addition and subtraction of money quantities**
- ✓ **Rates & Direct Proportion**
- ✓ **Unequal Sharing**

Topics:

- ✓ **Elements of Hire Purchase**
- ✓ **Calculation of Hire Purchase, deposit is given as an amount**
- ✓ **Calculation of H.P., deposit given as percentage.**

Practice 1: Rates – Money amounts over a period

| Teacher	Student
- Write Forty-five dollars and thirty cents.	Write "$45.30"
- Say, "What is $45.30 daily for 9 days?" repeat with 10, 12, 15, etc	$45.30 × 9
- Model "What is $____ monthly for ____ months."	

Practice 2: Exploring Tape Diagrams

Carefully look at the diagram. Discuss with your partner how you can calculate for the missing parts to each tape diagram.
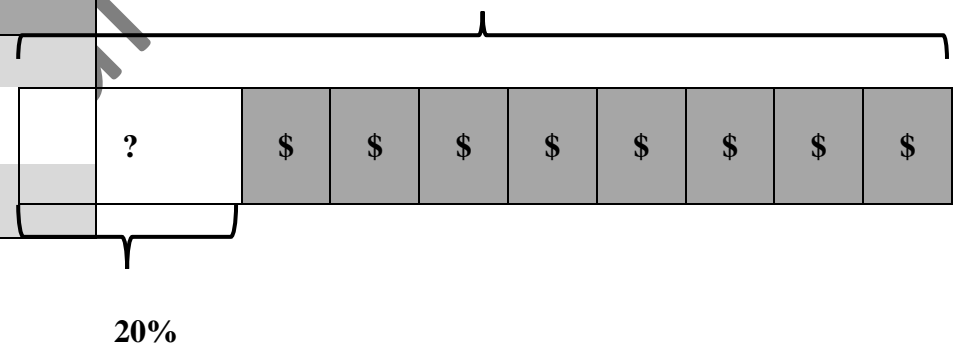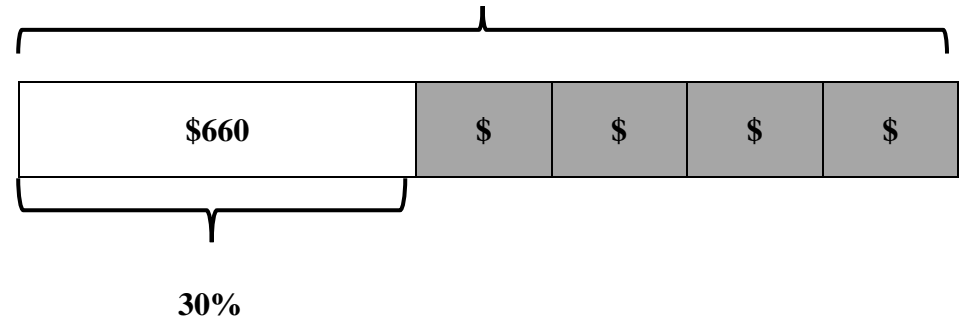
Practice Question 1   **$5000**

____%
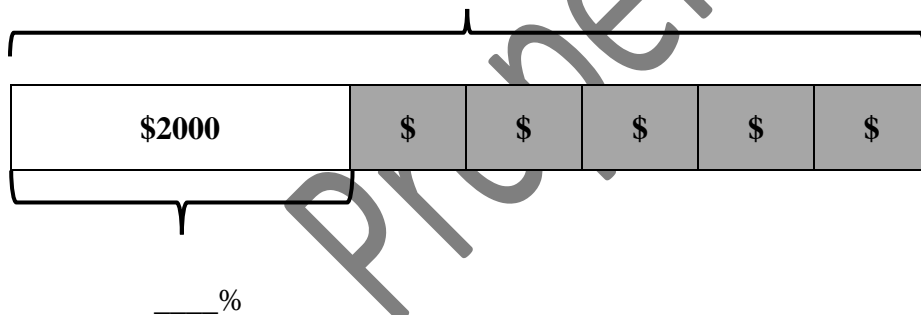
Practice Question 2   **$2500**

____%
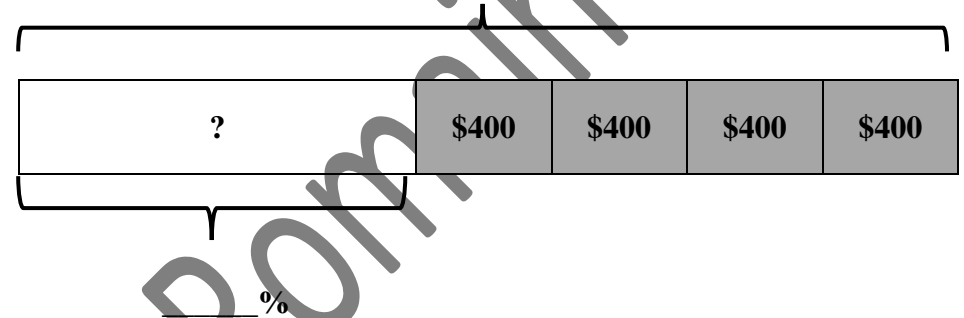
Practice Question 3   **$6000**
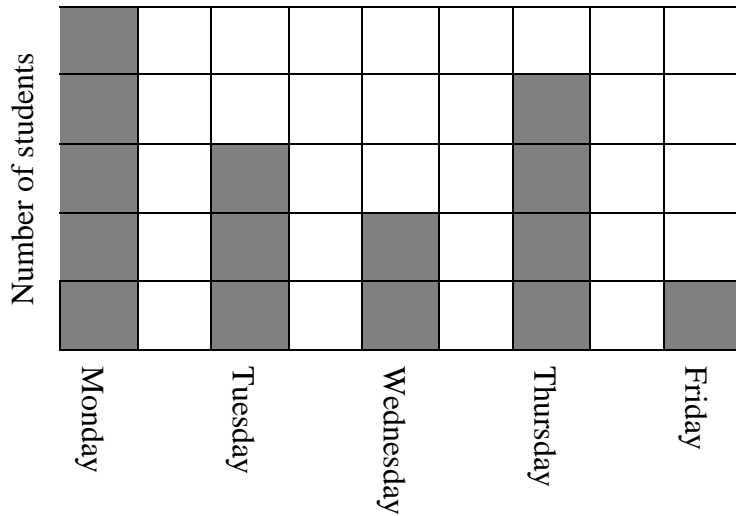

20%

Practice Question 4   **?**

30%

S.E.A. Application Problems – You have eight (13) minutes to do the next three (5) questions**. TIME YOURSELF**

1. The graph below shows the number of children buying ice-cream from Monday to Friday.

Number of students

Monday Tuesday Wednesday Thursday Friday

[shaded block] Represents 14 children

   a. How many more children bought ice-cream on Monday than Wednesday?

   b. Redistribute the blocks so that there are equal students on each day.
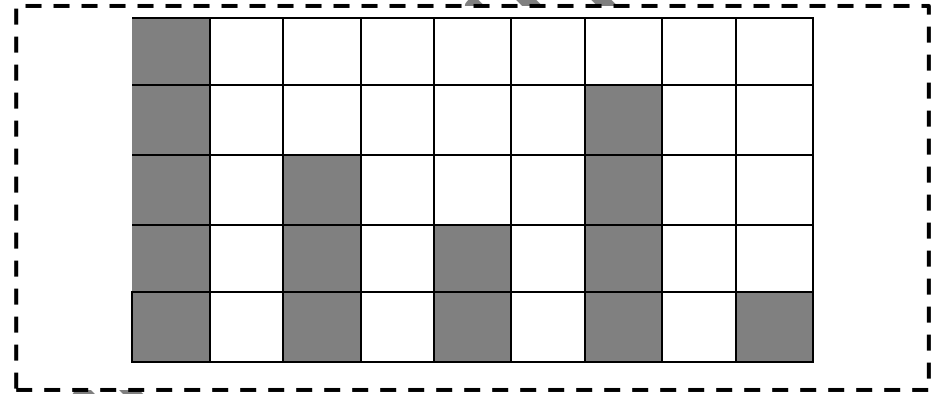
   c. Calculate the average number of children who buy ice-cream each day.

2. Ravi has 56 marbles. Scott has half as many as Ravi. How many marbles do they have ALTOGETHER?

3. 4 workers build a wall in 18 hours. Every two hours worked, they work rest for 1 hour.
   a. How many hours did the workers work?

   b. How many hours will one worker take to build the wall **if he does not rest?**

4. A farmer harvested 600 peppers from his garden. He sold 90% of the peppers and gave the remainder to the poor.
   a. How many did he give away?

   b. The farmer bagged the pepper into sets of 5 and charged $6.50 Calculate how much money he made from the peppers in part (a)

5. Allan shared a bag of mangoes with his friends. He gave $\frac{1}{5}$ to Jenny and $\frac{1}{3}$ of the remainder to Paul.

   a. What fraction of mangoes did Paul get?

   b. What fraction of the mangoes did Allan give to his both friends?

Hire Purchase (H.P.) is a popular way of buying expensive goods. Using H.P. you usually pay a deposit or down payment first and the remainder by monthly instalments.

MATH FACT #: There are four main parts to a hire purchase question.

1. Cash Price – the actual or total price of the item.
2. Deposit or Down Payment – part of the total price that is first paid before instalments are made.
3. Instalment – the repeated payments made weekly or montly.
4. Number instalments – The rate the instalments should be paid.

Example

Tom wants to buy a TV through H.P. He has been asked to make a deposit of one fifth of the total price of $200. The remainer will be paid in 8 monthly instalments at $20 each month.

Read the problem above and record the following amounts below.

1. Cash Price = _____
2. Deposit or Down Payment = _____
3. Instalment = _____
4. Number of instalments = _____

A REAL WORD PROBLEM example of HIRE PURCHASE

August 2017						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	Notes:	

6. Ms. Amelia is selling an assorted bag of candy for $ 8.00. Ms. Amelia offers to give you the candy for a charge of $2.50 on the first of August and you pay 25 cents each day for the rest of the month.

1. Cash Price = _____
2. Deposit or Down Payment = _____
3. Instalment = _____
4. Number of instalments = _____

a) How many days would you have to pay 25 cents?

b) How much did you pay for the candy altogether?

c) Did you or Ms. Amelia benefit from the agreement? By how much was that benefit?

_____

_____

Calculation of Hire Purchase deposit is given as an amount

Often, using H.P you pay a deposit first and the remainder by monthly instalments. To calculate the total H.P. price you have to add together the deposit and the total of all of the instalments.

MATH FACT #: Hire Purchase is a form of unequal sharing.

$$H.P. = Downpayment + Total\ Instalments$$

Example

A new TV costs $1200 cash. It is available on H.P. by paying a $500 deposit then 6 instalments of $134.50.

1. Cash Price = _____
2. Deposit or Down Payment = _____
3. Instalment = _____
4. Number of instalments = _____

Working

Find the total H.P. price.

- First we calculate the deposit:

  o **Deposit** = $500

- Now we need to calculate the total instalments:

  o **Total instalments** = instalment ×number of instalments

  o _____ = $134.50 x 6 = $_____

- We can now find the total H.P. cost

  o H.P. cost = **deposit** + **total instalments**

  o = $_____ + $_____

    = $_____

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7. Mr. Joseph pays $4000 down on a furniture set and is charged $375 for the next 24 months. How much did Mr. Joseph pay for the furniture altogether?

1. Cash Price = _____

2. Deposit or Down Payment = _____

3. Instalment = _____

4. Number of instalments = _____

8. The cash price for a radio is $600. A store sells the radio on hire purchase for zero dollars down and $40 monthly instalments for 18 months.

1. Cash Price = _____

2. Deposit or Down Payment = _____

3. Instalment = _____

4. Number of instalments = _____

a. How much will a customer pay for the radio if he pays using hire purchase?

b. What is the difference between the cash price and hire purchase?

Try to make up your own hire purchase problem. As a guide, be sure you have the following:

1. Cash Price = _____

2. Deposit or Down Payment = _____

3. Instalment = _____

4. Number of instalments = _____

_____

_____

_____

_____

_____

_____

Calculation of Hire Purchase deposit given as percentage

Many times in H.P, your **deposit is a percentage of the cash price** of the item. To change the deposit from a percentage to a money amount, you have to multiply together the percentage and cash price..

MATH FACT #:

$$Deposit \ (part) \ = \frac{Percentage}{100} \times \frac{Cash \ Price \ (total)}{1}$$

Example

A new TV costs $690 cash. It is available on H.P. by paying a deposit of 15% followed by 12 instalments of $55.85.

1. Cash Price = _____
2. Deposit or Down Payment = _____
3. Instalment = _____
4. Number of instalments = _____

Working

Find the total H.P. price.

- First we calculate the deposit:

    o Deposit = 15% **of** the cash price

    o $= \frac{15}{100} \times \frac{690}{1} = \$$_____

- Next, we calculate the total instalments:

    o Total instalments = instalment ×number of instalments

    o = $55.85 x 12 = $_____

- We can now find the total H.P. cost

    o H.P. cost = **deposit** + **total instalments**
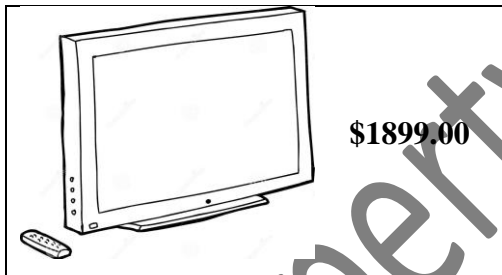
o = $_____ + $_____

= $_____

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9. A Samsung cellular phones costs $6000. Digicel has a sale of 25% down payment and payments of $400 monthly for 2 years.

1. Cash Price = _____
2. Deposit or Down Payment = _____
3. Instalment = _____
4. Number of instalments = _____

a. How much is the customer's down payment?

b. What is the hire purchase price paid by the customer?

a. Which CUSTOMER pay the greater deposit?

b. What is the difference in the hire purchase prices of CUSTOMER A and CUSTOMER B?

10. At Courts, a television is offered on 2 hire purchase options. CUSTOMER A pays $400 down payment and $158.56 monthly for 8 months. CUSTOMER B pays $33\frac{1}{3}\%$ deposit and a dozen equal payments of $98.40.

$1899.00

CUSTOMER A	CUSTOMER B
Cash Price = ____	Cash Price = ____
Deposit or Down Payment = ____	Deposit or Down Payment = ____
Instalment = ____	Instalment = ____
Number of instalments = ____	Number of instalments = ____

Try to make up your own hire purchase problem. As a guide, be sure you have the following:

1. Cash Price = _____

2. Deposit or Down Payment = _____

3. Instalment = _____

4. Number of instalments = _____

Other times in H.P., you may have to calculate the monthly or weekly instalment that you must pay.

Calculating Instalments

MATH FACT #: Hire Purchase is a form of unequal sharing.

$$H.P. = Downpayment + (instalment \times number\ of\ periods)$$

The cash price of a bike is $220. The hire purchase price is $300. If the deposit is 10% followed by 10 equal monthly instalments, find the amount you pay each month.

1. Cash Price = _____

2. Deposit or Down Payment = _____

3. Instalment = _____

4. Number of instalments = _____

- First calculate the deposit:
  o Deposit = 10% of $220
  o = $22.00
- Now we need to calculate the total instalments:
  o Total instalments = **H.P price - deposit**
  o = $300 - $22
  o = $278
- Now we can work out what **each** instalment will be
  o Individual instalments = total instalments ÷ number of instalments
  o = $278 ÷ 10
  o = $27.80

Practice:

Feel free to look for the chapter on Hire Purchase in your Math text. Do some of the worded problems outlined in your text.