Dear Parents / Students

Due to the unprecedented situation, Knowledgeplus Training center is mobilized and will keep accompanying and supporting our students through this difficult time. Our Staff will be continuously, sending notes and exercises on a weekly basis through what's app and email. Students are requested to copy the notes and do the exercises on their copybooks. The answers to the questions below will be made available on our website on knowledgeplus.mu/support.php. Please note that these are extra work and notes that we are providing our students and all classes will be replaced during the winter vacation. We thank you for your trust and are convinced that, together, we will overcome these troubled times.

Knowledgeplus Training Center

Mathematics

Garde 8

Week 3

Notes and Exercise

Note:(All the Notes, Examples and Exercise are on the photos)

Note:(Please copy all the Notes, Examples and Exercise on your copy book).

Mathematics Grade 8 Week3

Continue in Algebraic Expression & Algebraic Equeation

→ Substituting values in expressions

Example1

Given that $a=3$, $b=-1$ and $c=7$, Find the value of:

(a) abc (b) $2a-3b$ (c) $ab+4c$ (d) b^2+5ac

(e) $7bc-2ab$.

Solution:

(a) $abc = (3)(-1)(7)$

$= -21$

(b) $2a-3b = 2(3)-3(-1)$

$= 6-(-3)$

$= 6+3$

$= 9$

(c) $ab+4c = (3)(-1)+4(7)$

$= -3+28$

$= 25$

(d) $b^2+5ac = (-1)^2+5(3)(7)$

$= 1+105$

$= 106$

(e) $7bc-2ab = 7(-1)(7)-2(3)(-1)$

$= -49+6$

$= -43$

Note:(Please copy all the Notes, Examples and Exercise on your copy book).

Exercise 1:
If $a=2$, $b=3$ and $c=-1$, find the numerical value of each of the following expressions:

(a) $3a+b$ (b) $4a-b$ (c) $2a+3b-5c$

(d) ac^2 (e) $(ac)^2$ (f) $-(ab^2)$

(g) $3a^2bc$ (h) $3a(bc)^2$ (i) abc^3

(j) $a(bc)^3$ (k) a^2+b^2 (l) $abc+c^3$

(m) $3ab-4c$ (n) $2ab+3bc^2$ (o) $4ab^2-6abc$

(p) $2a(3b-4c)$

Solving equations involving the additive inverse.
Example:
Solve each of the following equations:
(a) $x+5=1$ (b) $y-8=17$ (c) $a+3=-2$
(d) $m-6=-9$
Solution:
(a) $x+5=1$
$x=1-5$
$x=-4$

Note:
$+ = -$
$- = +$
$\times = \div$
$\div = \times$

(b) $y-8=17$
$y=17+8$
$y=25$

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(c) $a+3=-2$

$a=-2-3$

$a=-5$

(d) $m-6=-9$

$m=-9+6$

$m=-3$

Exercise 2

Solve the following equations.

(a) $x+5=9$ (b) $z+12=18$ (c) $y+7=-3$

(d) $m+13=-14$ (e) $z+20=20$ (f) $10+t=32$

(g) $a+12=-19$ (h) $b+2.8=5$ (i) $c+\frac{1}{2}=4$

(j) $s+0.9=1.6$ (k) $e+\frac{1}{4}=7$ (l) $v+\frac{2}{3}=5\frac{1}{3}$

Solving equation involving the multiplication inverse

Example.

Solve the following equation:

(a) $4a=-16$ (b) $\frac{b}{5}=12$ (c) $-2x=8$ (d) $-\frac{m}{4}=3$

(a) $4a=-16$

$a=\frac{-16}{4}$

$a=-4$

(b) $\frac{b}{5}=12$

$b=12\times 5$

$b=60$

Note:(Please copy all the Notes, Examples and Exercise on your copy book).

(c) $-2x = 8$

$x = \frac{8}{-2}$

$x = -4$

(d) $-\frac{m}{4} = 3$

$m = 3 \times -4$

$m = 12$

Exercise 3:

Solve the following equations.

(a) $3x = 24$ (b) $5m = 100$ (c) $19y = 38$

(d) $2z = -5$ (e) $-8a = 16$ (f) $-9r = -36$

(g) $0.5b = 2.05$ (h) $-0.2u = 1.8$

Exercise 3:

Solve the following equations

(a) $\frac{x}{3} = 12$ (b) $-\frac{z}{6} = 9$ (c) $\frac{y}{4} = -5$

(d) $\frac{y}{13} = -1$ (e) $-\frac{m}{2} = 10$ (f) $-\frac{a}{10} = -10$

(g) $-\frac{a}{7} = -8$ (h) $\frac{b}{0.3} = -4$

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Solving equations involving more than one operation

Example:

Solve the following equations:

(a) $2x-6=14$ (b) $\frac{x}{3}+5=-7$ (c) $-4s-9=11$

Solution

(a) $2x-6=14$

$2x=14+6$

$2x=20$

$x=\frac{20}{2}$

$x=10$

(b) $\frac{x}{3}+5=-7$

$\frac{x}{3}=-7-5$

$\frac{x}{3}=-12$

$x=-12\times 3$

$x=-36$

(c) $-4s-9=11$

$-4s=11+9$

$-4s=20$

$s=\frac{20}{-4}$

$s=-5$

Note:(Please copy all the Notes, Examples and Exercise on your copy book).

Exercise 4:

Solving the following equations.

(a) $3x+6=13$ (b) $-2x+7=1$

(c) $4y-15=10$ (d) $4-a=11$

(e) $-7y-24=-3$ (f) $-3z-12=-17$

(g) $\frac{z}{4}+9=-2$ (h) $\frac{a}{3}-1=18$

(i) $6z+7=-42$ (j) $7-\frac{b}{5}=-3$

(k) $-7a-12=-21$ (l) $-4b-8=-2$

Solving equation involving brackets (in the form $m(x+a)=b$

Example:

Solve the following equation.

(a) $5(a+7)=15$ (b) $-3(m-2)=9$

Solution

(a) $5(a+7)=15$

$5a+35=15$

$5a=-35$

$5a=-20$

$a=\frac{-20}{5}$

$a=-4$

(b) $-3(m-2)=9$

$-3m+6=9$

$-3m=9-6$

$-3m=3$

$m=\frac{3}{-3}$

$m=-1$

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Exercise 6

Solve the following equation:

(a) $8(x+2)=12$ (b) $7(x-5)=35$ (c) $2(x-2)=10$

(d) $-5(x-1)=5$ (e) $2(-x+3)=-12$ (f) $12=2(x+3)$

(g) $3(t-2)=0.42$.