Warm up

Evaluate.

1) $-1+(-13)=$

-14

2) $6(-9)=$

-54

3) $-12+(+14)=$

2

4) $\dfrac{-4-2}{-3}=$

2

$\dfrac{-6}{-3}$

Order of Operations

P Parenthesis / Grouping ( ) [ ] | | { }

E Exponents $\frac{3+5}{4-8}$

M Multiplication
D ivision
} @ the same time L → R

A Addition
S ubtraction
} @ the same time L → R

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$$5 - 2 + 7$$

$3 + 7$

10

Something to remember about exponents...

$-4^2 \neq (-4)^2$

$-(4^2)$

-16

$(-4)(-4)$

16

$$(4-(-5))^2$$

$$9^2$$

$$81$$

$-7^2 = -49$

$(-10)^2 = 100$

$-2^2 = -4$

$(-5)^2 = 25$

$(-5)(-5)$

$(-2)^3 = (-2)(-2)(-2) = -8$

$-2^3 = -8$

$(-5^2) = -25$

-5^2

$$5 - 2(6-10)^2$$

$5 - 2(-4)^2$

$5 - 2(16)$

$5 - 32$

-27

$$7 - |6 - 8| \div 2$$

$7 - |-2| \div 2$

$7 - 2 \div 2$

$7 - 1$

6

$$\frac{2+7^2}{3^2-3(2)}$$

$\frac{2+49}{9-3(2)} = \frac{51}{9-6} = \frac{51}{3} = 17$

$$\left(28 \div 2^2 \cdot 3 \div 7 - (-5)\right) - \left(2^3 - 3^2\right)$$

$(28 \div 4 \cdot 3 \div 7 - (-5)) - (8 - 9)$

$(7 \cdot 3 \div 7 - (-5)) - (-1)$

$(21 \div 7 - (-5)) - (-1)$

$(3 - (-5)) - (-1)$

$8 - (-1)$

9

1) $6+5\cdot 4-(-9)=$	3) $\dfrac{(5-11)^2-6}{7+16\div 2}=$
2) $-8\cdot(-2)+3^2-4\div 1+2=$	4) $\left(24\div 4\cdot 2\div 3-(-9)\right)-\left(8^2-7^2\right)=$
5) $\dfrac{10^2+(-5^2)}{(-2+7)^2}+\dfrac{-10}{-9+\left(2\cdot(21\div 3)\right)}=$	
6) $\left(\dfrac{\left(\lvert -5+7\rvert-(-9)+(-3)\right)^2}{2}\right)\left(\dfrac{35}{\lvert -9+7+(-3)\rvert}\right)=$	

1) $6 + \underline{5 \cdot 4} - (-9) =$

$6 + 20 - (-9)$

$26 - (-9)$

35

$2) -8 \cdot (-2) + 3^2 - 4 \div 1 + 2 =$

$-8 \cdot (-2) + 9 - 4 \div 1 + 2$

$16 + 9 - 4 \div 1 + 2$

$16 + 9 - 4 + 2$

$25 - 4 + 2$

$21 + 2$

23

$$3)\ \frac{(5-11)^2-6}{7+16\div 2}=$$

$$\frac{(-6)^2-6}{7+8}=\frac{36-6}{15}=\frac{30}{15}=2$$

$$4)\ \left(24 \div 4 \cdot 2 \div 3 - (-9)\right) - \left(8^2 - 7^2\right) =$$

5) $\dfrac{10^2 + (-5^2)}{(-2+7)^2} + \dfrac{-10}{-9 + (2 \cdot (21 \div 3))} =$

$$6)\left(\frac{\left(\left|-5+7\right|-(-9)+(-3)\right)^2}{2}\right)\left(\frac{35}{\left|-9+7+(-3)\right|}\right)=$$