Beginning of Year Review

Evaluate each expression.

1) $\left(\frac{1}{4}\right)\left(\left(\left(\frac{1}{4}+1\right)\left(\frac{1}{2}\right)\right)\div\frac{1}{2}\right)$

2) $\left(3+\frac{5}{4}-\left(\frac{5}{3}\right)^2\right)\left(\frac{1}{4}\right)$

3) $\left(1-\frac{2}{3}\right)\left(\left(1+\frac{3}{2}\right)\left(\frac{5}{4}\right)\right)$

4) $(2)\left(\dfrac{2}{\frac{3}{2}-1+1}\right)$

Simplify each expression.

5) $\left(x^4-5x\right)+\left(3x^4+8x\right)$

6) $\left(8-x^4\right)+\left(8+4x^4\right)$

7) $\left(4v-6\right)-\left(7v^4-8v\right)+\left(8v+v^4\right)$

8) $\left(8v-7v^4\right)-\left(6v^4+8v\right)-\left(8v^4+3v\right)$

9) $\left(6p^4-3\right)+\left(1+2p^3+7p^4\right)+\left(5p^3+4p^4-6p\right)$

10) $\left(2m^2+7m\right)+\left(4m^3+m^2+5\right)+\left(8+2m-3m^3\right)$
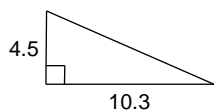
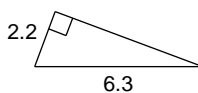**Find each missing length to the nearest tenth.**
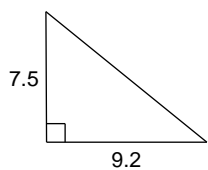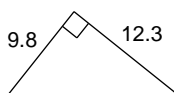
11)
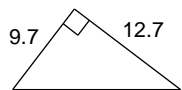
12)
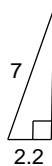
13)

14)

15)

16)

Evaluate each using the values given.

17) $y + x - x$; use $x = 2$, and $y = 3$

18) $\dfrac{y}{5} + x$; use $x = 3$, and $y = 5$

19) $x - (y + y)$; use $x = 5$, and $y = 1$

20) $y - 1 + z$; use $y = 2$, and $z = 6$

21) $m - m + n$; use $m = 6$, and $n = 5$

22) $m + \dfrac{p}{5}$; use $m = 6$, and $p = 5$

23) $q - p \div 4$; use $p = 4$, and $q = 4$

24) $6x - y$; use $x = 5$, and $y = 6$

25) $n - \dfrac{m}{6}$; use $m = \dfrac{3}{2}$, and $n = 1$

26) $\dfrac{6}{x} - y$; use $x = 1$, and $y = 1$

27) $(j)(h + j)$; use $h = \dfrac{11}{6}$, and $j = \dfrac{1}{3}$

28) $b^2 + a$; use $a = \dfrac{3}{2}$, and $b = \dfrac{1}{2}$

29) $(m \div p^2)(p - 1 + m)$; use $m = 3\dfrac{3}{4}$, and $p = 2\dfrac{4}{5}$

30) $(y + (5 + x)(y + 1)) \div y$; use $x = \dfrac{3}{2}$, and $y = 2\dfrac{1}{6}$

31) $p - (4p^2)(p - q)$; use $p = 2\frac{5}{6}$, and $q = 2\frac{3}{4}$

32) $xy + \dfrac{x}{y} + x + 2$; use $x = \frac{2}{3}$, and $y = \frac{1}{4}$

33) $(3)\left(\dfrac{n - n}{m} + n\right) - n$; use $m = 3\frac{1}{2}$, and $n = 3\frac{3}{4}$

34) $x^3 - (5)(x - x) + y$; use $x = \frac{4}{3}$, and $y = 1\frac{5}{6}$

Find each product.

35) $3y^3(2x + 4y)$

36) $8ab(2a - 6b)$

37) $(8x + 6y)(6x - 8y)$

38) $(6a + b)(8a + 3b)$

39) $3(m^2 - 6mn - 7n^2)$

40) $5(x^2 - 6xy - 6y^2)$

41) $(3u - v)(7u^2 - 8uv - 6v^2)$

42) $(4m - n)(6m^2 + 3mn - 7n^2)$

43) $(x + y)(2x^2 + 2xy - 8y^2)$

44) $(7x - 4y)(4x^2 - xy - 7y^2)$

Answers to Beginning of Year Review

1) $\dfrac{5}{16}$

2) $\dfrac{53}{144}$

3) $\dfrac{25}{24}$

4) $\dfrac{8}{3}$

5) $4x^4 + 3x$

6) $3x^4 + 16$

7) $-6v^4 + 20v - 6$

8) $-21v^4 - 3v$

9) $17p^4 + 7p^3 - 6p - 2$

10) $m^3 + 3m^2 + 9m + 13$

11) 16

12) 6.6

13) 11.2

14) 5.9

15) 11.9

16) 15.7

17) 3

18) 4

19) 3

20) 7

21) 5

22) 7

23) 3

24) 24

25) $\dfrac{3}{4}$

26) 5

27) $\dfrac{13}{18}$

28) $\dfrac{7}{4}$

29) $2\dfrac{2053}{3136}$

30) $10\dfrac{1}{2}$

31) $\dfrac{17}{108}$

32) $5\dfrac{1}{2}$

33) $7\dfrac{1}{2}$

34) $4\dfrac{11}{54}$

35) $6y^3x + 12y^4$

36) $16a^2b - 48ab^2$

37) $48x^2 - 28xy - 48y^2$

38) $48a^2 + 26ab + 3b^2$

39) $3m^2 - 18mn - 21n^2$

40) $5x^2 - 30xy - 30y^2$

41) $21u^3 - 31u^2v - 10uv^2 + 6v^3$

42) $24m^3 + 6m^2n - 31mn^2 + 7n^3$

43) $2x^3 + 4x^2y - 6xy^2 - 8y^3$

44) $28x^3 - 23x^2y - 45xy^2 + 28y^3$