MATH 111i WORKSHEET 2

Name:_____

Work in groups to answer as many problems as you can. Ask questions if you get stuck.

1. Simplify the expressions, using exponent rules, leaving your answer in rational exponent form.

   (a) $2x^2\sqrt{4x^6}$

   Answer:_____

   (b) $2m^2 \cdot 4m^{\frac{3}{2}} \cdot 4m^{-2}$

   Answer:_____

   (c) $\left(a^{\frac{1}{2}}\right)^{\frac{3}{2}}$

   Answer:_____

   (d) $\dfrac{2x^{-\frac{7}{4}}}{4x^{\frac{4}{3}}}$

   Answer:_____

   (e) $\sqrt{n^4}^3$

   Answer:_____

(f) $\sqrt[3]{27p^6}^5$

Answer:

(g) $\dfrac{1}{\sqrt{25b^6}^3}$

Answer:

(h) $\sqrt[3]{a^8}^2$

Answer:

(i) $\dfrac{4x^2}{2x^{\frac{1}{2}}}$

Answer:

(j) $\dfrac{3x^{-\frac{1}{2}} \cdot 3x^{\frac{1}{2}} \cdot 7^{-\frac{1}{3}}}{3y^{-\frac{7}{4}}}$

Answer:

Cont.

2. Expand the following expressions using the distributive property.

(a) $3(2p-5)+2(3p-3)$

Answer:_____

(b) $x(x^2-2y)+3x^2(x+2y)$

Answer:_____

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

Answer:_____

(d) $(b-c+d)(a-c-d)$

Answer:_____

(e) $3s(2t-3r+4u)-2t(3s-r+6u)$

Answer:_____

Cont.

(f) $(x + y + z)(5z + 2y)$

Answer:

(g) $p(q - 2r) - 2(rp + 7q)$

Answer:

(h) $2x^2(4xy - 5) - 8yx^3 + 9x^2$

Answer:

(i) $w + z(5w + 6 - z) + (z + 4w)(w + 6)$

Answer:

(j) $5s + 6ts(r + 5t) + 5r(2s - 3t)(2s + 3t)$

Answer:

Cont.

3. Factorise the following expressions.

(a) $x^2 - y^2$

Answer:_____

(b) $w^8 - 2^4$

Answer:_____

(c) $w^2 + 2zw + z^2$

Answer:_____

(d) $s^2 + t^2 - 2st$

Answer:_____

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

Answer:_____

Cont.

(f) $5p^2q - 10pq + 15p$

Answer:_____

(g) $9jk^2l^3 + 6j^2l - 3jkl$

Answer:_____

(h) $xy + 17x^2yz + 3xy^5z^4$

Answer:_____

(i) $a^2b^2 - c^2$

Answer:_____

(j) $x^4y^2z^6 - a^8b^6c^2$

Answer:_____

The End.