

U 12

Answers 12/KEY WORDS
1 d 2 f 3 b 4 a 5 c 6 e

Answers ~~12/3~~ 12/3a
The discourse markers are *For me* (introduces an opinion), and *In other words* (introduces an explanation).

Answers and transcript 12/3b
1 idea = an example to support the idea of getting value from limited resources and finding creative ways to reuse what you already have
words = Take Mansukh Prajapati, a potter in India. He has created a fridge made entirely of clay that consumes no electricity.
2 idea = a contradiction, i.e. he will say what the building actually is
words = It's a small manufacturing plant set up by Grameen Danone.

Answers 12.1/1
1 India: a fridge made of clay, it doesn't consume any electricity
2 Africa: a cell phone battery recharger, powered by a bicycle
3 Peru: an advertising billboard, absorbs air humidity and converts it into purified water

Answers 12.2/2
1 Many of them didn't go to school, and they don't invent things in big R&D labs; the street is their lab.
2 capital, energy, healthcare and education
3 They have to rely on human ingenuity; they have to 'go within themselves'.
4 They 'magically' transform adversity into opportunity, i.e. they turn something of less value into something of high value.
5 It creates more economic and social value, using fewer resources. It's 'the art of doing more with less.'

Answers 12.1/3
1 cities 2 qualified 3 villages 4 senior 5 resources
6 complex 7 more 8 money 9 water 10 needs

Answers 12.1/4
Grameen Danone factory: joint venture to make high-quality yoghurt in Bangladesh, 10% the size of existing Danone factories, cost much less to build, relies on manual processes to generate jobs. Danone are planning to roll it out in other parts of the world as well.
Siemens CT scanner: can be used by less qualified health workers, scans more patients every day than other scanners, consumes less energy, reduces cost of treatment by 30% and radiation dosage by up to 60%. It was intended for China but is now also selling in the US and Europe.

Answers 12.1/5
1 coming together 2 jams 3 Japan 4 cameras
5 SMS messages 6 twenty

Answers 12.1/6
Principles
1 Keep it simple. 2 Do not reinvent the wheel.
3 Think and act horizontally.
Meanings
1 This means that it is unnecessary to complicate things just to make something bigger and better than other products. (Don't create solutions to impress customers. Make them easy enough to use and widely accessible.)
2 This means that you should look at what's available and re-use whatever ideas are useful. (Try to leverage existing resources and assets that are widely available ...)
3 This means that it's better to have lots of smaller operations than one large one, e.g. several distribution centres rather than one huge one. (... if you want to be agile and deal with immense customer diversity, you need to scale out horizontally using a distributed supply chain with smaller manufacturing and distribution units ...)

Answers 12.1/7
1 c 2 a 3 b 4 c 5 b 6 b 7 a 8 c
Note that 1 *out of thin air* usually means 'from nothing', but here could also mean 'with limited resources'.
Alchemists (2) were people through the ages up to the eighteenth century who tried to produce gold from ordinary metals. Alchemy only started to decline with the advance of modern science.

Answers and transcript 12.1/8
1 Let's go to Lima in Peru, a region with **high humidity** and receives only one inch of rainfall each year.
2 An engineering college in Lima designed a giant advertising billboard that absorbs air humidity and **converts it into** purified water.
3 In other words, they **mastered the art** of doing more with less, which is the essence of frugal innovation.
4 China **desperately needs** these frugal medical solutions because by 2050 it will be home to over a half billion senior citizens.
5 Frugal innovation is **diametrically opposed** to the way we innovate in the North.
6 This device can scan more patients **on a daily basis**, and yet consumes less energy.
7 The question is, how do you **go about** adopting frugal innovation?
8 The South pioneered frugal innovation out of **sheer necessity**.

Answers 12.1/73
The three types of examples are: real-life examples of the theory in action, stories or anecdotes from your own experience and the testimony of other people.
testimony means 'evidence' or something spoken/written that someone else has said to be true.

Answer 12.1/14
1 It's a real-life example of an idea in action.
2 It matches three of the tips: it's relevant, the example is not complicated and the visual is clear. We don't know if the audience can relate to it from their own experience.

12.2

Answers 12.2/1

- 1 It could be copied and sold by someone else.
- 2 If a patent is pending, it means an application for a patent has been made to the patent office, but the licence hasn't been granted yet. If a patent is granted, it means that the licence is given to the applicant and they can make and sell the product.

Answers 12.2/2

- 1 first is Japan, followed by the USA
- 2 most productive is South Korea, followed by Japan
- 3 South Korea: because they grant the most patents and spend the least on research relative to the number of patent applications.

Answers 12.2/3

- 1 c (beginning of the sentence) 2 d (beginning of the sentence) 3 b (before the main verb, after the verb be) 4 f (before the adjective) 5 f (after the object) 6 a (before the main verb) 7 e (before the main verb)
- 2 It could be that innovators in South Korea pursue projects only when they ... (at this time), It could be that only innovators in South Korea pursue projects ... (no one else). Note that only is an example of a focus adverb, i.e. one that can change position in the clause to change meaning; we can position these adverbs in front of the element they qualify.
- 3 manner, place, time

Answers to Grammar summary exercises

- 1 10.167
1 beautifully, incredibly 2 hardly 3 in a friendly manner/way 4 late, very hard 5 well, daily / on a daily basis 6 barely, straight
- 2
1 He chose his words carefully.
2 I rarely forget a face. (Also Rarely do I forget a face, but this needs the auxiliary.)
3 She has undoubtedly made the right choice. / Undoubtedly, she has made the right choice.

- 4 He looked at me inquisitively.
 - 5 I thought the idea was quite preposterous.
 - 6 They made the case passionately for a new organization. / They made the case for a new organization passionately.
 - 7 I sometimes wonder if it was the right decision. / Sometimes, I wonder if it was the right decision.
 - 8 I completely understand your concerns. / I understand your concerns completely.
- 3
- 1 Frankly, I don't think the plan will work very well.
 - 2 They have just rented an apartment in New York for the summer. / They have rented an apartment in New York just for the summer.
 - 3 I am regularly asked that question at meetings.
 - 4 He casually mentioned it to me in the canteen last week. / He mentioned it to me casually in the canteen last week. / He mentioned it casually to me in the canteen last week.
 - 5 His appointment was officially announced in the newspapers yesterday. / announced officially
 - 6 Apparently, they completely refurbished their house last year. / They completely refurbished their house last year, apparently. / They refurbished their house completely ...
 - 7 Unfortunately, I probably won't be home in time for dinner tonight. / I probably won't be home in time for dinner tonight, unfortunately.
 - 8 We're working hard on the new business at the moment. / At the moment, we're working hard on the new business.
- 4
- 1 They even have fresh coffee.
 - 2 I only found out yesterday. / I found out only yesterday.
 - 3 He is old enough to look after himself.
 - 4 It was extraordinarily kind of her.
 - 5 The warning is clearly stated on the label. / The warning is stated clearly on the label.

Answers ~~12.2/4~~ 12.2/4

- 1 I will hopefully go there tomorrow. / Hopefully, I will go there tomorrow.
- 2 I don't even like new gadgets.
- 3 He finally agreed to manufacture the product. / Finally, he agreed to manufacture the product.
- 4 She is seldom without a camera. / Seldom is she without a camera.
- 5 I saw them in London in July.
- 6 I clearly need to practise more. / Clearly, I need to practise more.
- 7 He's just told me the news.
- 8 It's probably not the right time to ask.

Answers 12.2/5

- 1 I often get my best ideas in the shower in the morning.
- 2 She doesn't usually give interviews. However, on this occasion she was persuaded to.
- 3 He's clearly already made up his mind to work on the idea with only a few of his closest friends. / Clearly, he's already made up his mind to work on the idea with only a few of his closest friends. (... with a few of his closest friends only.)
- 4 He still remembers his early days as a young research scientist at Bath University fondly. / He still fondly remembers his early days as a young research scientist at Bath University.
- 5 She's a highly talented inventor who never refers to her achievements boastfully. / She's a highly talented inventor who never boastfully refers to her achievements.
- 6 They officially launched their new invention at the Berlin Expo last summer. / They launched their new invention officially at the Berlin Expo last summer.
- 7 Can I (just) show you my new phone quickly? Unfortunately, it (just) doesn't seem to be working properly. / It (just) doesn't seem to be working properly, unfortunately.
- 8 Interestingly, they didn't like the original design enough. Nevertheless, they kindly invited us to submit other ideas. / Interestingly, they didn't like the original design enough. They kindly invited us to submit other ideas, nevertheless. (They nevertheless kindly invited us to submit other ideas.)

Answers to Grammar summary exercise

5

10. 167

- 1 In spite of this 2 Indeed / As a result / Therefore
3 Subsequently 4 As a result / Indeed 5 Meanwhile

Answers 12.2/7

- 1 Consequently – In view of this / Hence 2 Besides –
In any case 3 Rather – Instead 4 Accordingly – In view
of this / Hence 5 Conversely – By direct contrast
6 Thereafter – Subsequently

Answers 12.2/8

- 1 To his 2 In her 3 By 4 Contrary to 5 Curiously
6 To be 7 To my 8 To put 9 In 10 On the 11 On
12 With 13 Out of 14 Off

Note that for 9, *with* is also possible, i.e. *With hindsight*,
but this does not work if students have used a different
phrase in each sentence.

Answers to Grammar summary exercises

6

10. 167

- 1 In/With, in, By 2 By, out of 3 to, To 4 Off
7

- 1 hid quickly the present → hid the present quickly
2 yesterday to London → to London yesterday 3 longly
and hardly → long and hard 4 not enough strong → not
strong enough 5 We will go there hopefully tomorrow →
Hopefully, we will go there tomorrow. / We will go
there tomorrow, hopefully. / We will hopefully go there
tomorrow. 6 In the whole → On the whole

12.3

Answers 12.3/4

- 1 the final point, but not the least important one
2 discovered a new way to use/express his skill of inventing
3 looked as though it might work / be successful / yield
results
4 more than they could imagine
5 find the formula/constituents from analysing the
finished product itself, and then re-create the material
6 be able to share

Answers

12.3/2

- a Ward had problems getting funds, but only because he
refused to accept less than a 51% share of the product in
any deal.
b He didn't have problems protecting the idea from
imitators, as he was so secretive that he never released
samples.
c He found plenty of companies ready to believe in and
fund the product – ICI, Boeing, BAe, NASA.
d His main problem was his inability to let go of his
invention and let others take it forward to become an
innovation.

Answers

12.3/3

- 1 The path which each invention must take ... is never
easy. Standing in the way is the scepticism of the research
community, the claims of other inventors and last, but not
least, the protectiveness of the inventor himself. (lines 1–5)
2 Ward was a tinkerer by nature. (line 9)
3 ... a material that would resist temperatures of
2,500 degrees Celsius, not give off toxic fumes and still
remain cool enough to be touched. (lines 30–32)
4 The possibilities were endless. (line 39)
5 Naturally, Ward kept the formula a secret. (line 49) He
refused to apply for a patent, since that would involve
revealing its composition. (lines 51–53)
6 It would be incorrect to say that he took his secret to
the grave because some of the family still know it ...
(lines 62–64)

Answers

12.3/6

- 1 took off (line 19) 2 trying out (line 25) 3 hit on (line 29)
4 give off (line 31)

Answers

12.3/7

- 1 forward, up with 2 out, off 3 off, up 4 around, out
5 on, about 6 out, down to 7 up against, on 8 up, out
9 off, up 10 out, up for
Note that the phrasal verbs *try sth on* and *hit off* are almost
always used in the expressions *try it on* and *hit it off*.

Suggested answers

12.3/8

- 1 progress, think of 2 started with the aim of, were
rewarded 3 be successful, accept 4 solved,
experiments 5 discovering, cause 6 understand,
turned her attention to 7 meet, deceiving someone
8 arranged, withdrew 9 liked each other, raised
10 pay, compensate for

12.4

Answers

12.4/3

- 1 Make use of the different program settings for different
types of photo.
2 Use 'spot focus' to focus the camera before taking a
picture.
3 Find the best way for them to hold the camera steadily.
4 Use the (optical) zoom feature to zoom in to the subject
rather than having a small subject with lots of space
around it.

Answers

12.4/4

- 1 just stick to basic auto mode 2 landscape mode
3 hold it properly 4 be taking professional photos
5 get camera shake 6 zoom in closer

Answers

12.4/5

- 1 The usual pronunciation of the ending is the weak
/tʃə/, but in *immature* it is pronounced /tʃuə/, because the
stress is placed on the last syllable here.
2 The usual pronunciation of the ending is the weak /ɪdʒ/,
but in *massage* it is pronounced /ɑːʒ/, partly because of
the stress on the last syllable and also using the French
final sound.
3 The usual pronunciation is either of the weak forms /əs/
or /ɪs/, but in *disgrace* the stress is on the last syllable and
the ending is pronounced /eɪs/.
4 The usual pronunciation of the ending is the weak /ɪt/, but
in *sachet* the ending has the more French pronunciation /eɪ/.
5 The usual pronunciation of the ending is the weak form
/əns/, but in *finance* the stress is on the last syllable and it
is pronounced /aens/.

Answers 12.4/8

1 Minecraft is about building things with cubes: it's a kind of computerized Lego.

2 But it's also a game about survival, discovery, creativity and community.

3 Minecraft also has a multi-player capability ... / As you become more adept at building, your world opens out ...

4 The graphics ... are quite basic and retro.

5 ... that makes it so addictive to children and adults alike.

6 I recommend trying it out

Answers 12.4/9

I'm assuming most readers have heard of Minecraft ...

... if you're someone who gets easily frightened, I'd advise you to use this facility ...

... just make sure you have built your first hut before sunset!

Answers 12.4/10a

a (+ infinitive) offer

b (+ object + infinitive) urge, encourage, advise, invite

c (+-ing / noun) recommend

d (+ preposition + -ing / noun) no matches

e (+ object + preposition + -ing / noun) discourage, congratulate, praise

Answers 12.4/10b

1 on having, waiting (you wait is also possible but not one of the patterns given) 2 to deliver, to give 3 them for trying, to paying 4 to getting / having got, me to play